2006–2007
Catalog

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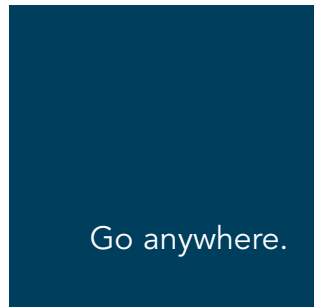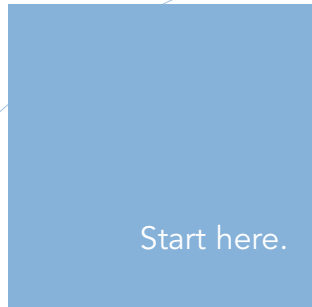## Saint Paul College
A Community & Technical College

Saint Paul College
A Community & Technical College

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Welcome to Saint Paul College

A Community & Technical College

The faculty and staff at Saint Paul College prides itself on its responsiveness to the changing education needs of the community. Your success is our priority! We are constantly identifying new and expanded approaches for offering transfer, career and business and industry education so that we may better serve our diverse student and community populations.

During the 2006-07 academic year, we will continue to expand our liberal arts and sciences program which leads to the AA degree and is accepted for transfer to four-year baccalaureate universities. We also have some new and exciting career programs in emerging fields such as nanotechnology, wine professionals, biomedical precision machining, chemical technology and visualization which combine the arts and computer sciences. These programs are supported by tutoring centers, student life programs, and career center services which will assist students in completing their program and in making the transition to further education and/or the world of work as seamless as possible.

We are especially pleased to announce two major initiatives that will be launched this year which will help us to better serve our students and the community! A $10,000,000 major building renovation project will commence which will greatly improve the facilities of a number of our trade and technical programs and provide a new biology lab thanks to funding from the Minnesota Legislature.

We are also very pleased to participate in a collaborative effort with Minneapolis CTC and Metropolitan State University called The Power of You! This program will provide qualified Saint Paul and Minneapolis Class of 2006 high school graduates the ability to attend Saint Paul College or Minneapolis Community & Technical College tuition-free! This was made possible by generous support by a number of Foundations and support from community groups. We are committed to increase the number of Saint Paul graduates who will attend and succeed in college and in the work place!

Use this catalog as a resource to explore numerous degree, diploma and certificate programs. You may want to enhance your current knowledge and skills, train for a new career or transfer to a four-year university. If you are unsure about your future plans, we can help you to discover your future as well! I invite you to learn more about Saint Paul College.

We look forward to working with you and wish you all the best with your college plans and personal goals! Remember, When you start here, you can go anywhere!

Donovan Schwichtenberg, Ph.D.
President
Saint Paul College

Directory of College Services

Academic Programs

Business, Computer Science Department	651.846.1349
ASL - Interpreting Department	651.846.1612/1654 TTY
Health and Service Department	651.846.1311
Liberal Arts and Sciences Department	651.846.1349
Technical Department	651.846.1320
Trade and Industrial Department	651.846.1320
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Assessment, Intake	651.846.1650
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Dean of Student Development and Services	651.846.1360
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English-as-a-Second-Language Classes (Intensive English Program)	651.846.1555
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Saint Paul College:
Vision, Mission & Values

Vision

Saint Paul College—A Community & Technical College will be a leader in providing comprehensive life-long learning by utilizing and providing innovative and quality-focused strategies and services.

Mission

The mission of Saint Paul College is to provide:
Education for Employment… Education for Life!

Saint Paul College offers comprehensive learning opportunities in both career and transfer education to enhance personal knowledge and advance economic opportunity for the benefit of a diverse population of constituents which includes students, business/industry/labor and the community.

Strategic Goals

Comprehensive Learning Organization

Saint Paul College is committed to excellence in teaching and learning and offers a wide spectrum of learning opportunities in career and transfer education to meet learner needs.

Organizational Innovation and Development

Saint Paul College strives to ensure the successful future of the College through creative thinking and the implementation of quality principles to more efficiently and effectively utilize resources and improve learning and operations.

A Service-Centered Environment

Saint Paul College is dedicated to an integrated service philosophy that focuses on learner needs.

Organizational Applied Systems

Saint Paul College is committed to apply systems to improve learning, communication and productivity.

Values.

Excellence in:

Teaching & Learning
Career & Transfer Education
Customer Service
Innovation
Accessibility
Technology

Respect for:

Learners
Cultural Diversity
Human Diversity
Collaboration

Integrity in:

Climate Responsiveness
Accountability
Honesty
Decision-Making

Available in Alternate Format

This catalog is available in alternative formats for individuals with disabilities.
For assistance, contact the Disability Services Office at Phone: 651.846.1547, TTY: 651.846.1548.

General Information
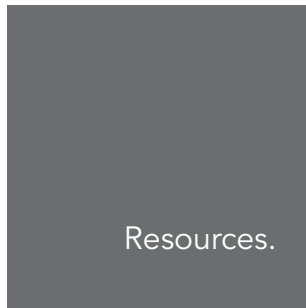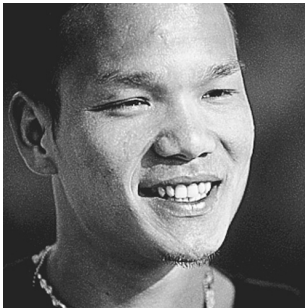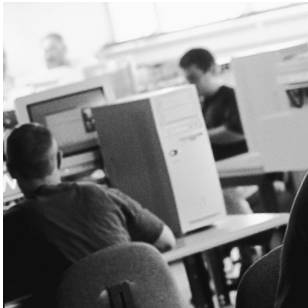
Resources.

General Information

Accreditation

Saint Paul College—A Community & Technical College is accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools.

The College also holds program-specific accreditation by: The American Culinary Federation's Accrediting Commission, The Committee on Accreditation for Respiratory Care and the Commission on Accreditation of Allied Health Education Programs, the National Accrediting Agency for Clinical Laboratory Sciences, the Federal Aviation Administration and the National League for Nursing Accrediting Commission. The Practical Nursing Program is approved by the Minnesota Board of Nursing. The Automotive Service Technician Program has National Automotive Technician Education Foundation (NATEF) Certification.

Saint Paul College meets established standards and is approved for the instruction of veterans, orphans of war veterans, state and federal rehabilitation students and members of the workforce needing training or retraining. Saint Paul College meets the definition of an institution of higher education and students are entitled to participate in federal financial assistance programs.

Minnesota State Colleges and Universities

Saint Paul College is one of the 32 two-year and four-year colleges and universities in the Minnesota State Colleges and Universities system. The colleges in the system provide a wide array of opportunities for life-long education in academic and technical fields, ranging from short-term certificate programs to masters degrees. Approximately 29,000 students graduate from Minnesota State Colleges and Universities each year. Refer to the System Web site www.mnscu.edu for further information.

Alliances and Memberships

Students, Alumni & the Employer Connection

Saint Paul College offers undergraduate programs of two years or fewer to a widely diverse student population. Students are welcome regardless of their background, experience, or previous educational endeavors. The common goal of all students, however, is their desire for Education for Employment…Education for Life!

Alumni Relations

Saint Paul College has established an alumni association and is designing a unique program to complement the educational process at the College. Call 651.846.1305 for further information.

Alliances with Business and Industry

Saint Paul College's greatest asset is its success in providing employment opportunity for graduates. This is due to its partnerships with the businesses, industries and trade unions with whom we collaborate. Saint Paul College relies on these major stakeholders to:

1. Hire our graduates;

2. Serve on our Advisory Committees to ensure relevant and current curriculum content and instruction; and

3. Provide quality assurance and identity within the community.

The College's relationships with businesses, industries, trade unions and alumni have remained strong to help ensure that the tradition of quality will be continuously enhanced through information, involvement and improvement.

Graduate follow-up is conducted each year. Program placement statistics remain consistently high and are available for each program at Saint Paul College.

Job Placement

The Career and Placement Center provides assistance to students and graduates in their search for part-time and full-time employment. This assistance is a life-long service to students and graduates of Saint Paul College.

Assistance includes:

- Listings of part-time and full-time job openings from employers who contact the College regularly

- Listings of job openings received from the Minnesota Work Force Center

- Internet access to additional job opportunities nationwide

- Direct electronic mailing of job leads to graduates

- Cover letter and resume development

- Coordination of on-campus interviews with employers

The Career and Placement Center conducts an annual follow-up of Saint Paul College graduates to determine the job status of the most recent program graduates. This information may be obtained from the Job Placement/Employment Office or from the College Web site at www.saintpaul.edu/general/employment/. For further information on the Career and Placement Center, please contact the Director of Career and Placment at 651.846.1384.

Midwest Center for Postsecondary Outreach

The Midwest Center for Postsecondary Outreach (MCPO) was established at Saint Paul College and has maintained a contract since October of 1996 established by the U.S. Department of Education, Office of Special Education and Rehabilitative Services. The purpose of MCPO is to increase and improve post-secondary educational opportunities for individuals who are deaf and hard-of-hearing in the following twelve midwestern states: Iowa, Illinois, Indiana, Kansas, Minnesota, Michigan, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. MCPO provides technical assistance to help post-secondary institutions improve existing services or establish new services for students who are deaf and hard-of-hearing. MCPO works primarily at an institutional level to increase the capacity of colleges, universities and other post-secondary institutions to attract and serve deaf and hard-of-hearing students.

Outreach Sites assist MCPO with technical assistance activities which include program development, workshops, training, ESL/ASL instruction, product/media technology assistance and dissemination of materials in the midwest. The outreach sites are the University of Wisconsin, Milwaukee; William R. Harper College, Palatine, Illinois; the Center for Sight and Hearing, Rockford, Illinois; and Saint Paul College operates as an outreach site to provide technical assistance to the western states of the midwest region.

For more information about MCPO or to be placed on the mailing list, contact 651.846.1337 V/TTY or 651.221.1339 FAX. Please visit our Web site at www.mcpo.org

Consortium Outreach Program and Services

Saint Paul College offers special services to deaf and hard-of-hearing students and to other colleges in the Minnesota State Colleges and Universities system. These services include student evaluation and counseling service for any deaf or hard-of-hearing student planning to attend any college in the state including Saint Paul College. Other services provided through the Consortium Outreach Program include, but are not limited to, information about program availability and

resources for services such as notetaking and interpreting; technical assistance regarding special modifications; liaison services between students, sponsoring agencies and college staff; and in-service training programs regarding best practices in serving deaf and hard-of-hearing students. For services and more information, call the Consortium Outreach Program Counselor at 651.846.1340 V/TTY; 651.846.1344.

Customized Training & Consulting (CTAC)

Putting People on the Cutting Edge

In the fast-paced business economy of today and tomorrow, the need to improve quality standards, increase service standards and respond to rapidly changing technologies and markets becomes critical.

The answer is *Customized Training & Consulting*, a Division of Saint Paul College, which meets customer needs for: employee assessment, training, design and delivery of training and training products/services at the place of business and conferences/workshops/seminars.

Your One Source for Training

Saint Paul College provides Minnesota employers with customized training and tools to educate, retrain, or update their employees for today's ever-changing business world. Today Customized Training & Consulting works with hundreds of companies in the Twin Cities. Training is provided in a wide variety of areas, including Information Technology, manufacturing/technology, leadership/organizational skills and total quality management programs.

Training is provided in the format that works best with the client and their employees, for example:

- **Web-Based Training** features over 100 Courses.

- **Seminars** provide information to participants on important, timely topics.

- **Workshops** are designed to include intense activities to influence employee application of new behaviors, attitudes, or skills.

- **Courses** are aimed at increasing skills or specific knowledge relating to employment and are held over a period of time. Time is allowed for practice, lab work, or independent study.

Whatever the format, you can be assured of thorough, professional training that will effectively bring bottom-line results to your company. "In the end, competitive advantage is not in the technology, but in the people who invent and use it."—ASTD Report on Technical Training in America, how much and who receives it.

Training Programs:

- AutoCAD
- Leadership 2000
- Lean/Flexible Manufacturing
- Supervisory & Management Training
- Quality Initiative Training
- Consulting Services Organizational Needs and Individual Skills Assessment

Location

Customized Training & Consulting is located at 317 Marshall Avenue, just west of the Saint Paul College Main Campus. Any CTAC class can be offered at your work site or custom tailored to meet your employee's need.

Call 651.846.1800 for more information.

Admissions

Admissions Process

Saint Paul College welcomes applications for admission to the College. Admission to College majors is based on assessment results and potential to succeed in a program. Admission to many individual courses is open; however, admission to some courses is based on meeting course prerequisites and program admission requirements.

Admission to a Major Program

Students are accepted into a major program for the purpose of obtaining a specific degree, diploma, or certificate. Students may change their major program by meeting the prescribed admission requirements for the desired program.

Application Procedure

If you have not applied to or enrolled in Saint Paul College in the past follow this application procedure:

1. Complete an *Application for Admission* at www.saintpaul.edu.

2. Your bill will reflect a one time non-refundable $20 application fee within 48 hours of your application submission. To pay this fee make checks payable to Saint Paul College.

3. Complete the Assessment in reading, writing, and math or complete the English-as-a-Second-Language (ESL) Assessment if you are a non-native speaker of English. Call 651.846.1555 for more information. Scores must be turned in to the Office of Enrollment Services. If you have taken the ACT or SAT exam in the last 2 years

and scored 24 or higher on the ACT individual subscore or 550 on the SAT individual subscore you may not have taken the placement exam. Please bring a copy of your scores to the Transfer Center (Room 159) for further review.

4. Request high school transcripts and/or GED scores as well as official transcripts from all secondary and post-secondary institutions attended be sent to Saint Paul College.

5. If you have previously applied, enrolled or requested information from Saint Paul College please contact the Office of Enrollment Services so your records can be updated.

Some major programs require additional assessment. Applicants will be notified if they need to do additional assessment.

Assessment requirements may be waived based on previous college experience as validated by college transcripts.

Application Procedure for Transfer Students

Students seeking a degree, diploma, or certificate, who have previously attended accredited institutions, must have all official transcripts sent directly from the previous colleges to Saint Paul College Records Office. If a transcript is hand carried by the student, it is to be delivered in a sealed envelope. Student copies and faxed transcripts are not considered official but can be used for admission purposes.

Re-Admission

Students who have interrupted attendance at Saint Paul College must contact the Office of Enrollment Services to apply for re-admission. To have assessment tests waived based on coursework completed at another institution, contact the Transfer Center at 651.846.1739.

Undeclared Students

A student who has not applied for admission to a major program may register for up to 8 credits. Some classes may be limited to students admitted to a specific major. Undeclared Students are not assigned a faculty advisor and do not qualify for financial aid or veterans' educational benefits.

If at a later date the student decides to pursue a degree, diploma, or certificate, the credits earned as an Undeclared Student may apply toward a program.

Change of Major

Students who have been admitted to Saint Paul College in a specific major program and want to change that program need to complete the *Change of Major Form* at the Office of Enrollment Services. Mid-semester major program changes are not permitted. The change of major program will be effective for the next semester.

Credit for Prior Learning

Saint Paul College offers adult students with sufficient work, non-college credit and/or life experiences the opportunity to document competencies relevant to specific course offerings at the College for prior learning credit. Credit earned from prior learning must be applicable to the student's program of study at Saint Paul College and are evaluated for credit by qualified faculty members. Credit for Prior Learning is not available if a CLEP exam exists for that course. Note: Credits earned through Credit for Prior Learning may not transfer to other colleges.

Students interested in pursuing the option of earning credit for prior learning must discuss this option with the assigned Faculty Advisor and the Prior Learning Coordinator.

Post-Secondary Enrollment Options Program (PSEO)

The PSEO program enables Minnesota high school juniors and seniors to take college classes for high school and college credit. The purpose of the program is to promote rigorous academic pursuits and provide a wider variety of options than may be available in high school. Students may attend either part-time or full-time. Tuition, fees and textbooks are provided at no cost. For more information about the PSEO Program, please contact the Office of Enrollment Services at 651.846.1555.

Tech Prep

Tech Prep affords high school students an opportunity to receive college credit in many subjects. Tech Prep programs effectively blend academic and technical education in a challenging and purposeful course of study that can lead to employment and credit toward further education. Since the workplace has changed significantly enough to require some training after high school, but not necessarily a full four-year degree, tech prep programs offer viable new options for high school students who connect learning with life.

Tech Prep credit is awarded for high school classes in Business, Child Development, Culinary Arts, Carpentry, Automotive Service and many other subjects. Many programs are articulated between Saint Paul Public Schools and Saint Paul College. Consult a high school counselor for more information concerning Tech Prep.

Transfer of Credits *from* Other Institutions

Saint Paul College will review requests for transfer credit from individuals who have completed coursework from other accredited post-secondary institutions. The number of credits transferred to Saint Paul College is dependent upon the specific requirements of each program or degree offered at Saint Paul College. Transfer credits

will appear on the Saint Paul College transcript and can be used to satisfy the program graduation requirements but will not be used to calculate the grade point average.

Students interested in receiving transfer credit must complete a *Request for Transfer of Credits* form from the Student Records Office. Each credit to be considered for transfer must be supported by an **official** transcript from the originating institution and must be approved by a transfer specialist and/or the student's Faculty Advisor prior to the awarding of credit. Students who change programs should request a re-evaluation of their transcript credit.

Treatment of Grades

Grades earned prior to transfer are evaluated according to the following standards:

All college courses in which a student has received a grade of A, B, C, or D, shall be considered for transfer evaluation. P grades shall be accepted as earned credit. If the student's cumulative GPA at the originating institution is less than 2.0 GPA, D grade course credits will not be accepted in transfer from that school. No F grade course credits will be accepted in transfer. Students retain the right to appeal the acceptance of credits. Programs with their own standards may accept transfer grades differently.

Comparability

Courses approved for transfer must be comparable in nature, content and level and match at least 75% of the content and goals of the course syllabus for which the student is seeking equivalent credit.

Time Limit for Courses

General education courses shall have no transfer time limit. Additionally, technical courses applying toward an Associate of Arts degree shall have no transfer time limit.

To ensure students graduate with up-to-date skills, technical credits are valid for five years or have a five-year "lifespan." This includes transfer technical credits which are used for specific technical program requirements. Technical courses that are beyond the five-year limit may be accepted, based on currency, relevancy and the student's current work experience.

Degree Residency

A student shall earn a minimum of 20 credits for all associate degrees at the College. The residency requirement shall be reduced to 12 credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution and the University of Minnesota. One-third of the credits required for a diploma, certificate, or the Minnesota Transfer Curriculum (MnTC) must be earned at the College.

Equivalency

The number of transfer credits granted per course shall not exceed the number granted by the originating institution. All quarter credits will be converted to semester credits.

Additional Types of Transfer Credit

AP—Advanced Placement Exams (for High School Students)

Advanced Placement gives high school students an opportunity to take college-level courses in various subject areas. A score of 3 is the minimum for credit awarded. Grades of 3, 4 or 5 qualify students for credits and/or placement into advanced courses at Saint Paul College. Credit can be given for a specific college course if a test covers substantially similar material. If the test material does not match an existing course, students will be given elective credits.

CLEP—College Level Examination Program

Saint Paul College will consider CLEP exam credits for students who want to test out of general education courses and selected business courses. A maximum of 30 credits may be applied toward an associate degree. No letter grades will be recorded on the transcript. Credit will be awarded based on the American Council on Education (ACE) recommendations. Credit will not be given which repeats completed coursework.

Note: Colleges establish their own policies for accepting CLEP credit. Students should consult their transfer college's CLEP policy to determine whether CLEP credits will transfer and/or how they will be accepted. Consult the College Board Web site (www.collegeboard.com) for testing locations, fees and exam information.

Note: CLEP exams have changed and there are no longer General Exams as distinguished from Subject Exams. Computer-based CLEP exams administered prior to July 1, 2001 have the same score scale and credit-granting score as its paper-based counterpart. All CLEP computer-based testing (CBT) exams administered after July 1, 2001 have a uniform ACE recommended credit-granting score of 50 for all subjects.

Credit for Life Work/Work Experience (Prior Learning)

Prior Learning (Competency-Based Education) allows students to present nontraditional learning as competencies to be evaluated for credit by qualified faculty members towards their educational program. These competencies must be the equivalent of what would have been achieved through college coursework. At Saint Paul College, Credit for Prior Learning offers, on a limited basis, students with sufficient work, non-college credit and/or life learning experiences, the opportunity to document competencies and theory learning relevant to specific courses offered at the College. Credits earned from prior learning must be applicable to the student's program of study. The Credit for Prior Learning option may be available for a limited number of courses. Students interested in pursuing the option of earning credit for prior learning must discuss this option with the assigned Faculty Advisor and the Prior Learning Coordinator.

IB—International Baccalaureate (for High School Students)

The International Baccalaureate (IB) program is an internationally recognized program through which high school students complete a comprehensive curriculum of rigorous study and demonstrate performance on IB examinations. Students may present a full IB diploma or a certificate recognizing specific higher level or standard level test scores. Credit is awarded for the IB Diploma; credit may be awarded for credits for subsidiary level exams at the higher level with a score of 5 or higher.

International Credits

Saint Paul College does not evaluate international transcripts. Students who have completed courses in another country must have their transcripts evaluated by a third-party evaluation service. Colleges and universities differ in how they accept these courses. For more information contact the Transfer Center.

Military

Credit for Army training may be obtained by submitting an Army/American Council on Education Registry System transcript from the Army directly to the college or university. ACE (American Council on Education) translates military courses and occupations into academic credit and provides guidelines to interpret and recommend credit for formal service-school courses, demonstrated proficiency in military occupations and college-level tests. Service members must have separated or retired by 1981.

Credit for Sailor and Marine training may be obtained by submitting a Sailor/Marine American Council on Education Registry Transcript (SMART). Service members must have separated or retired from active duty on or after October 1, 1999.

Credit for Air Force training may be obtained by submitting a request to the Community College of the Air Force or going to the nearest Air Force base education office.

Service members with credits/training for the Army pre-1981 and Sailors/Marines pre-1999 must request a DD295 and submit it for college credit award review.

Saint Paul College uses *A Guide to the Evaluation of Educational Experiences in the Armed Services* as a guide to award credit for military learning.

DANTES—Defense Activity for Non-Traditional Education Support

The DANTES program supports the voluntary educational program for active **military personnel** and members of the National Guard and Reserves. The DANTES Subject Standardized Tests (DSSTs), however, are now available for use by civilians at universities and colleges throughout the country. The DSSTs are a series of examinations in various college and technical subjects. DSSTs program allows students the opportunity to demonstrate college-level learning acquired outside the classroom. All tests carry ACE (American Council on Education) credit recommendations. Saint Paul College will honor the ACE recommendation and accept courses applicable to a program or course of study.

SOC—Service Members Opportunity Colleges

Recognizing the problems faced by military students whose jobs require frequent moves, SOC member schools make it easier to obtain college degrees by the following:

- Limiting the amount of coursework students must take at a single college to no more than 25% of degree requirements;

- Designing transfer practices to minimize loss of credit and avoid duplication of course work;

- Awarding credit for military experience; and

- Awarding credit for tests such as CLEP, RCEP and DSST national testing programs.

Colleges and universities that participate in the network degree programs for the Army, Navy and Marine Corps agree to:

- Guarantee to accept each other's courses in transfer within curriculum areas such as management, computer studies, interdisciplinary studies and others.

- Award credit for military service schools and occupational experience.

Intake Assessment

Saint Paul College and the Minnesota State Colleges and Universities system requires assessment of basic academic skills.

The assessment for English native language speakers covers reading comprehension, sentence skills and mathematical computation. The assessment for students whose native language is not English take the English-as-a-Second Language (ESL) assessment. This assessment covers the understanding of English grammar structures and listening comprehension. Students may be assessed in additional subjects for admission to selected programs or placement into certain courses.

These assessments are available on a walk-in basis in the Assessment Center in room 419 and usually take from 1 1/2 to 2 1/2 hours to complete. Scores determine ESL placement. In some cases, assessment results may indicate that the student may benefit from developmental coursework in reading, writing, grammar and/or math prior to entering a major program.

Pleases call 651.846.1555 for additional information about the assessment process.

The assessment requirement may be waived depending on previous college experience and/or college coursework. Contact the Transfer Center to have previous college coursework reviewed for an assessment waiver.

Developmental Coursework

Developmental coursework has assisted thousands of students in getting started in College programs. The goal of developmental coursework is for students to acquire the necessary knowledge and skills that help them succeed in programs.

Developmental coursework is delivered via traditional-based classes or as computer-based instruction where the students work independently in the Learning Center under the supervision of faculty and support staff.

Intensive English Program (English-as-a-Second-Language)

The purpose of English-as-a-Second-Language (ESL) coursework is to assist limited-English speakers from different ethnic and cultural backgrounds to learn English to increase their chances of success at Saint Paul College. The faculty of this area are able to communicate with several different language groups. This program offers a variety of support services and specially tailored classes to meet these unique needs.

Immunization Requirements

Minnesota Law (M.S. 135A. 14) requires that all students born after 1956 and enrolled in a post-secondary educational institution be immunized against measles, rubella, mumps and diphtheria and tetanus after 12 months of age within 10 years of first registration, allowing for certain specified exemptions. Students must submit a statement indicating the month and year of each immunization at the first registration for classes or no later than 45 days after the start of their first term. Students born in 1956 or before are not required to provide information. Students who graduated from a Minnesota high school in 1997 or later are also exempt.

The *Immunization Record* form is designed to provide the College with the information required by law and will be available for review by the Minnesota Department of Health.

Students enrolled in Health programs are required to obtain additional immunizations in accordance with clinical site policy. For more information regarding immunization requirements and resources available to meet those requirements, contact Enrollment Services.

Background Checks Policy

Designated Health and Child Development Careers program students are affected by the following:

Minnesota Statutes require that the Department of Human Services (DHS) conduct background studies on individuals providing direct contact services to people receiving services from facilities and agencies licensed by DHS and the Minnesota Department of Health (MDH). Direct contact is defined as providing face-to-face care, training, supervision, counseling, consultation, or medication assistance to people receiving services from the agency or facility.

An individual who is disqualified from having direct contact with persons served by the program as a result of the background study and whose disqualification is not set aside, will not be permitted to participate in a clinical placement in facilities with programs subject to licensure under Minnesota statutes. This is to protect the health, safety and rights of persons served by those programs. Failure to participate in a clinical placement required by the academic program could result in ineligibility to qualify for a degree in this program. *The Department of Human Services (DHS) determines disqualification* and the Department of Human Services will inform an individual of this report.

Students are reminded of the background study requirement upon admission to the program, during the first introductory course in the program and when a work setting is identified for a clinical placement. Background studies must be submitted annually.

Registration

The Saint Paul College *Course Schedule* and web site contain a complete listing of classes that are available each semester and is available approximately six weeks before the beginning of the semester. The *Course Schedule* lists the courses, number of credits, class times, instructors' names, room numbers and prerequisites. Registration dates and guidelines are included with the schedules.

Returning students in a declared major have registration priority. Students are encouraged to work with a faculty advisor when planning their classes. Students who have questions, or need help in making career and academic decisions, should make an appointment with the Director of the Career and Placement Center.

Class size is limited. Closed class lists are posted on the Saint Paul College Web site.

Registration for classes takes place each semester and summer term. Information on how and when to register is sent to new students when they are accepted for admission. Information is posted on the website for returning students. Not all courses listed in the *Course Catalog* are offered every semester.

A Registration Schedule is published for each term and indicates assigned dates and times for registration. New students register for classes during orientation sessions. Returning students register after consulting with their Faculty Advisor and according to the following procedures:

Registration Process for Current and Returning Students

1. Select courses.

2. Students should Login to their accounts to register online or take the *Course Registration Form* to the Office of Enrollment Services to register.

3. Pay tuition at the Tuition Office and receive a paid fee statement upon receipt of payment. Tuition/fees will be deferred for students who have applied for financial aid and received an official award letter. The award letter should be processed by the tuition/fee due date prior to each semester.

4. Purchase books and supplies and attend classes. If purchasing books and supplies with agency funding, a book voucher can only be used the first five days of the fall and spring semesters (the first two days of summer term).

HELPFUL HINT
Pay for books with your own money and purchase them, prior to the start of class, either at the bookstore or online at www.saintpaulcollegebookstore.com. This will help to avoid the long lines at the Bookstore on the first day of the semester.

Registration Process for New Students

1. Follow Admission and Intake Assessment process.

2. Attend an Orientation session.

3. Register online or submit the completed *Course Registration Form* to the Office of Enrollment Services.

4. Pay tuition at the Tuition Office and receive a paid fee statement.

5. Purchase books and attend classes.

Mail/Fax Registration

Mail/Fax registration is only available to students for up to eight credits. Full tuition payment must accompany the registration form. Refer to the current *Course Schedule* for details.

Adding, Dropping, or Withdrawing

All students, including those receiving financial aid, will be assessed tuition and fees for the term based on the number of credits for which they are registered on the 5th day of the term.

Students may add courses at any time during the published "add" period for each term. Students who drop a course through the 5th day of a term, may receive a tuition refund (pro-rated for summer term). All refunds are mailed and take approximately two weeks to process from the date received.

Students may withdraw from classes to receive a "W" grade from the 6th day of the term through the posted date of withdrawal for the term. For courses that do not run the entire term, withdrawal is permitted before 75% of the class session is over. Students may withdraw from courses by submitting the *Add/Drop/Withdraw* form to the Office of Enrollment Services in person, by fax, or by mail. The fax request will be processed on the date received through 4:00pm, or the next business day if received after 4:00pm If the student mails an *Add/Drop/Withdraw* form, it will be processed effective the date received. No refund is permitted after the 5th day. Courses officially withdrawn will be assigned the letter grade "W" (withdraw). Refer to the current *Course Schedule* for details.

Students who do not plan to attend the first day of class (or do not plan to log on for the first day of an online class) need to make arrangements in advance with their instructor. Students who miss the first day without making prior arrangements with their instructor may be deregistered from class. During add/drop periods this may result in others signing up for the available space in the class.

Academic Probation/Suspension

Saint Paul College has a Satisfactory Academic Progress policy which requires students upon registering for 12 or more credits to maintain a cumulative grade point average of at least 2.0 and/or a completion rate of at least 67% of the cumulative credits attempted with earned grades of A, B, C, D, P or AU. If these requirements are not met, students may be put on probation. If probationary students do not meet a semester 2.0 and/or 67% completion rate standard, they may be suspended from Saint Paul College for either one semester or a period of up to a year.

In order for students to be removed from this probationary status they must achieve a cumulative 2.0 GPA and must also complete 67% or more of the cumulative registered credits in their current enrollment term.

Academic Suspension

Students who fail to meet satisfactory academic progress standards in their probationary term by not earning either a semester or cumulative GPA of 2.0 or a 67% completion rate may be suspended for a period up to one year.

Appealing a Suspension

Students who believe they failed to achieve satisfactory academic progress due to extenuating circumstances may file a petition to be allowed to take classes.

Students who are approved to take classes must develop an academic plan. Only classes approved on the petition will be added to the student's schedule. Changes to the schedule must be approved by the Dean of Student Development Services.

Students with approved petitions will remain on probation; however, if the student fails to meet satisfactory academic progress standards during the term the petition is granted, they may be suspended for a period up to one year.

Readmission after a Suspension Period

Students must file a petition to be readmitted to Saint Paul College after a suspension. Students coming off of suspension will be required to take a credit course to help them with their study skills and assist them with not ending up on suspension again.

Academic Forgiveness Policy

The Academic Forgiveness policy is available only to students whose coursework was taken at Saint Paul College (formerly St. Paul Technical College). The policy is a one-time opportunity only. The student must not have been enrolled at Saint Paul College for a minimum of two (2) calendar years (24 months) and the student must have a cumulative GPA of less than 2.0. The coursework forgiven will remain on the student's transcript; however, the credits and the grades will not be carried forward into the student's cumulative grade point average. The student will be permitted to pick and choose courses within the semester to be forgiven. Only D's and F's can be forgiven. If more than one term is forgiven, they must be consecutive terms. A maximum of two (2) terms may be forgiven. In order to meet eligibility requirements for Academic Forgiveness, the student must have completed a minimum of 12 credits in residence at Saint Paul College with at least a 2.0 GPA after returning from the minimum 2-year absence. The student must apply for Academic Forgiveness within one (1) calendar year after completing the12 semester credits with at least a 2.0 GPA. Work completed at another institution cannot be used to satisfy this requirement.

Student Records

Saint Paul College Student Records Office is the official recorder of the students' academic records.

Student Transcripts

Requests for Saint Paul College transcripts and other related records, must be processed through the Student Records Office. All financial obligations to Saint Paul College must be met before transcripts are released.

An official transcript is issued for a fee upon **written request** through online submission and is sent to a third party such as another institution or employer within three business days. The transcript will serve as the official record of student effort while enrolled at the College. **This is an additional fee for next day service, if needed.**

Tuition and Fees

Tuition Rates

The Board of Trustees for Minnesota State Colleges and Universities establishes tuition rates annually. Tuition rates are established on a per-credit basis for all credit course offerings and are subject to change. The *Course Schedule* lists tuition and fee rates for the term.

Student Fees

All students registered for credit courses are assessed a Student Senate fee. The per-credit fee is assessed for students enrolling in 5 or more credits. During the summer, the fee is assessed if registering for 3 or more credits. The Minnesota State College Student Association also assesses a per-credit fee each term. All fees are subject to change.

Technology Fee

A technology fee is charged as allowed by the Minnesota State Colleges and Universities. The technology fee is used for purchasing instructional equipment and materials such as computers and software, audio-visual equipment, library technology and support staff.

Tuition Payment

Tuition and fees are due by the posted due date or the students' classes will be dropped. To retain classes, the Tuition Office must either have full payment, a *Facts Payment Plan* application, or received a *Financial Aid Award Letter*, a certified student loan, a scholarship or a third party authorization. Refer to the *Saint Paul College—Tuition & Fees Payment Options* handout at the Tuition Office.

Students who are qualified senior citizens (over 62) may be able to attend classes at a reduced tuition rate. Refer to the current *Course Schedule* for details. Registration is allowed at this rate beginning the second class session on a space-available basis.

Non-Resident Tuition Status

Students who are classified as non-residents by the Office of Enrollment Services are required to pay the non-resident tuition rate. To be considered a Minnesota resident, students must live in the state one year prior to applying for admission to Saint Paul College. If an applicant is identified as a non-resident by the Office of Enrollment Services, the applicant must provide official documentation which proves that he/she was a resident of Minnesota at least one year prior to making application to Saint Paul College. Information regarding the procedures for determining residency status is available in the Student Records Office.

Reciprocity

Reciprocal tuition agreements exist with Wisconsin, North Dakota, South Dakota and Manitoba, Canada. Residents of Kansas, Michigan, Missouri and Nebraska may enroll in designated institutions and programs at reduced tuition levels outside their home state. Contact the Registrar for further details.

Students attending Saint Paul College under a reciprocity agreement must complete a *Tuition Reciprocity Agreement* form at the Tuition Office.

Non-Payment of Tuition

Students who have not paid their tuition by the posted due date will lose their place in each registered class.

Refer to the current *Course Schedule* for further details.

Tuition/Fee Deferments

Tuition/fees will be deferred for students who have applied for financial aid, have a complete file and have received an official award letter from the Financial Aid Office indicating aid eligibility. Students should allow a minimum of 4–6 weeks for financial aid processing. The award letter must be processed by the tuition/fee due date prior to each semester.

Note: Students who have applied for financial aid but have not received an award letter by the tuition due date, should contact the Tuition Office for payment arrangements until an award letter is received.

Refunds for Total Withdrawal from College

Students who withdraw or drop from all courses must give formal written notification to the College to be eligible for a tuition refund according to the schedule below. Failure to attend class does not constitute withdrawal.

Withdrawal Period—Fall & Spring Terms	Refund
Prior to the 1st day of the term	100%
1st through 5th class day of the term	100%
6th through 10th class day of the term	75%
11th through 15th class day of the term	50%
16th through 20th class day of the term	25%
After the 20th class day of the term	0%

Withdrawal Period—
Summer/Other Terms   Refund

(At least 3 weeks but less than 10 weeks in length)

Prior to the 1st day of the term 100%
1st through 5th class day of the term 100%
6th through 10th class day of the term 50%
After the 10th class day of the term 0%

Refunds for Change of Credit Load

Schedule changes (ADD/DROP) will be handled through the Office of Enrollment Services through the 5th day of the term. No tuition refund will be made, nor will fees be reduced by dropping part of the credits, after the 5th day of the term.

Refunds for Summer Session Classes

The above refund schedules are pro-rated for summer session. Consult the Office of Enrollment Services for details on summer refunds.

Refund Time Frame

Refunds for tuition payments made by cash or check will be via check only and mailed to the student. Credit card payments will be refunded to the same credit card that was used when the tuition was paid. A minimum of one week is required to process cash and credit card refunds. A minimum of two weeks is required to process refunds for tuition and fees paid by check.

Exceptions

100% refunds are provided to students when classes are cancelled by the College after the first week of the semester. Refunds other than the amounts listed in the policy above may be given when there is a College error, or for medical issues resulting in long-term hospitalization or mandated bedrest. Complete the *Petition Form* available in the Student Records Office. Documentation will be required. Requests for exceptions must be received in a timely manner.

Financial Aid

General Information

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 the student does not have to pay back), loans (money that the student must pay back) and college work-study (money the student earns through employment). Eligibility is determined from the results of the *Free Application for Federal Student Aid, FAFSA.*

The student and his or her family have the primary responsibility to pay for the student's education. Financial aid is intended to supplement the difference between the cost of education and the expected family contribution. Several programs are available to help students meet their educational expenses. The Financial Aid Office will calculate financial aid eligibility after receiving FAFSA results and all required documents.

The student must be admitted to a program at Saint Paul College—A Community & Technical College that leads toward a degree, diploma, or eligible certificate to be qualified to receive financial aid. For additional information, contact the Financial Aid Office at 651.846.1386.

Financial Aid Definitions

- **FAFSA**—The FAFSA is the *Free Application for Federal Student Aid.* This is the form that allows the student to apply for all types of financial aid: grants, loans, or college work-study.

- **What is the Cost of Education?** The cost of education includes tuition, fees, a room and board allowance, books, supplies, a transportation allowance and a personal expense allowance.

- **What is Expected Family Contribution?** An amount, determined by a formula called Federal Methodology, that indicates how much of the student and his or her family's resources should be available to help pay for school. The Expected Family Contribution (EFC) is used in determining the student's eligibility for federal and state financial aid. If a student has unusual expenses that may affect his or her ability to pay for school, the student should notify the Financial Aid Director.

- **What is Financial Need?** Financial need is the difference between the cost of education and the expected family contribution calculated by the federal processing center.

- **Full-Time Enrollment:** 12 credits or more per semester.

- **Three-Quarter-Time Enrollment:** 9–11 credits per semester.

- **Half-Time Enrollment:** 6–8 credits per semester.

- **Less Than Half-Time Enrollment:** 5 credits or fewer per semester.

Types of Financial Aid

The following types of financial aid are available at Saint Paul College:

Grants

Grants are gift aid, which the student does not have to pay back. Students who have completed a bachelor's degree, or the equivalent from another college, are not eligible for grants.

Federal Pell Grant

Students may apply for the Federal Pell Grant by completing the FAFSA. Pell Grants vary from $400 per year up to the federally legislated maximum. Pell Grant recipients must be enrolled in an eligible program.

Minnesota State Grant

This is a grant for Minnesota residents who are attending an accredited post-secondary institution. Awards are similar to the Pell Grant. Students apply by completing the FAFSA. Minnesota State grant eligibility requires FAFSA be received within the first 30 days after the term begins.

Federal Supplemental Education Opportunity Grant (SEOG)

This program is designed for students who have exceptional financial need. Funds are limited and eligibility is determined by the Financial Aid Office.

Minnesota Child Care Grant

This grant is for students who are Minnesota residents, have children 12 and under (14 and under, if handicapped), have financial need and have child care expenses. Recipients must not be receiving Minnesota Family Investment Program (MFIP) assistance. Students who have received an award letter may request an application from the Financial Aid Office.

Work-Study Programs

- Federal Work-Study
- State Work-Study

These programs employ students on campus. Pay is established by the College. These programs provide work for up to 20 hours per week. Total work-study earnings cannot exceed the cost of attendance. Students must be registered for 6 credits.

Loans

Loans are financial aid that must be paid back. The student must attend an Entry Loan Counseling session at Saint Paul College in order to be eligible to apply for a loan. Students must be registered for 6 credits.

Federal Stafford Loan

Whether or not students qualify for a grant, they can get help to meet their educational expenses by borrowing money from the Stafford Student Loan Program or one of several other available loan programs. Depending on their eligibility, first year students may borrow up to $2,625 per academic year.

Federal Plus Loan Program (PLUS)

The Plus Loan Program for undergraduate students can be used by parents of dependent students who are in need of additional funds to meet the cost of education. The program allows parents to borrow up to the cost of attendance minus other aid.

Supplemental Loan for Students (SELF)

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

Other Sources of Financial Assistance

Several government and private agencies provide financial assistance to eligible students. Contact the local office of any of the following agencies for consideration. The agency determines who is eligible for assistance.

- Division of Rehabilitation Services (DRS/DVR) *www.deed.state.mn.us/rehab*

- Minnesota Indian Scholarship Program *www.ohe.state.mn.us*

- Veteran Benefits (VA) *www.vba.va.gov*

- Minnesota Educational Assistance for War Orphans *www.ohe.state.mn.us*

- Minnesota Migrant Council (MMC)

- Services for the Blind (SSB) *www.mnssb.org*

- Private Scholarships—check with a high school counselor, the public library and the following Web sites:
    - www.fastweb.com
    - www.finaid.org
    - www.fastaid.com
    - www.college-scholarships.com

- Saint Paul College Foundation
    - www.saintpaul.edu

How to Apply for Financial Aid

1. Apply for admission to Saint Paul College. Please note that only students enrolled in programs leading towards a degree, diploma and eligible certificates are qualified to apply for financial aid. Awards vary based on enrollment level (full-time or part-time). Financial aid will be based on the number of enrolled credits as of the 5th day of the term. Financial aid adjustments will not be made after this date.

2. Fill out the *Free Application for Federal Student Aid* (FAFSA). We recommend applying electronically through the U.S. Department of Education's Web site at www.fafsa.ed.gov. This will complete the FAFSA Pre-Application Worksheet available on the web site before applying electronically. Enter the Saint Paul College school code, 005533 so the Financial Aid Office will receive an electronic copy of the results. A *Student Aid Report* (SAR) should arrive in 2 weeks or 4 weeks if mailed.

3. If other post-secondary schools have been attended prior to attending Saint Paul College, request an *official* academic transcript be sent to the Student Records Office for credit evaluation. This is a requirement for Minnesota State Grant eligibility.

4. Once the Financial Aid Office receives the SAR electronically from the Student Federal Aid Program, the student's application will be reviewed for accuracy and completeness. It is important that any requests for additional information be responded to immediately. When the file is complete, financial aid eligibility will be calculated and an award letter will be mailed. The Award Letter is also accessible at the College's Web site under your student account.

5. Carefully read the award letter that provides information regarding financial aid eligibility. The award letter explains procedures for receiving financial aid and/or applying for other financial assistance, such as student loans, child care grants and work-study employment on campus. For more information, call 651.846.1386 or visit the Financial Aid Office.

Financial Aid Policies and Procedures

Withdrawals

If you withdraw from Saint Paul College within the first five days of the semester, you will not receive financial aid funds because there will be no class registration. If you withdraw from attendance at Saint Paul College for any reason after the 5th day of the semester, you will be placed on financial aid probation the following academic term. After completing the next semester with the appropriate grade point average (GPA) and credit hour progression, you will be removed from probation. If you fail to maintain a satisfactory GPA and credit progression, you will be suspended from financial aid.

Withdrawals and Effect on Financial Aid

Students who receive financial aid and withdraw from all classes are subject to a federal Return of Title IV Funds policy. The policy states that if you withdraw up through 60% of the semester, a proportional amount of financial aid either received or that was applied to your student account must be refunded to the federal government.

Example: If a student receiving a Pell Grant of $2000 drops out after 50% of the semester, 50% of the Pell received, $1000 must be returned to the federal government by the student and/or institution, (minus 50% of the student's calculated share for Pell and SEOG).

Any institution refund calculated within the first four weeks of school will be applied to the student's account to reduce the student's share of the Return of Title IV Funds.

Funds returned to the federal government are used to reduce the federal program amount for which funds were disbursed. Funds are returned in the following order:

Unsubsidized Federal Stafford Loan

Subsidized Federal Stafford Loan

Federal PLUS Loan

Federal Pell Grant

Federal SEOG Grant

Other assistance under Title IV for which a Return of Funds is required

After the institution's share of any required refund to Title IV programs has been refunded, a proportional share of any remaining refund (not to exceed the amount of the State Grant payment the student initially received for the term), must be returned to the State Grant Program.

Program Transfers

If you transfer from one program to another, you will be considered for continued financial aid eligibility. However, all grades and coursework will be assessed in determining satisfactory academic progress.

Consortium Agreement

If you are taking classes required for your program at Saint Paul College at another college, you must complete a consortium agreement if you would like those courses included in financial aid eligibility. *Consortium Agreement* forms may be picked up at the Financial Aid Office, completed with an attached registration form and paid fee statement from the host school and submitted to the Financial Aid Office by the 5th day of the semester start date . If a consortium agreement is not submitted, financial aid will not reflect courses taken at the host school.

Tuition and Fee Deferments

Tuition and fees will be deferred if the results from your FAFSA submission (Student Aid Report, SAR) has been received electronically by the Financial Aid Office. Continuing students enrolling for spring or summer term that have Student Loan eligibility only must submit a *Student Loan Promissory Note* to be deferred. Otherwise you should contact the Tuition Office for payment arrangements.

Satisfactory Academic Progress Standards for Financial Aid Recipients

Federal regulations require that a college develop a standard of satisfactory academic progress. This satisfactory academic progress standard must have both a qualitative standard (grade point average) and a quantitative standard (course completion). If the student fails to meet either of these two standards, he or she will first be given a probationary term. If the student fails to meet either of the satisfactory academic progress standards during the probationary term, the student *will be suspended from financial aid*. Students who have been suspended from financial aid due to these standards, may receive financial aid again after they have met the satisfactory academic standards or by successfully appealing the loss of aid. Appeal procedures for the loss of financial aid may be obtained from the Financial Aid Office.

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.

Qualitative Standard

Students are required to maintain a minimum *2.0 cumulative GPA* for all coursework including withdrawals, incompletes and non-credit courses. For repeated courses, the highest grade achieved will be used for the GPA. Transfer credits do not effect the student's GPA.

Quantitative Standard

Students are required to complete a minimum *67% of the cumulative credits* attempted based on their enrollment status. All credits attempted will be calculated into the completion percentage. This includes courses that are designated with a withdrawal, incomplete, non-credit courses and courses that have been repeated. Any coursework that has been accepted as transfer credit toward current program completion will also be included in progress made toward the current program.

Maximum Timeframe

All students are expected to complete their program within an acceptable period of time. Financial aid recipients meeting Satisfactory Academic Progress requirements may receive aid until they complete their program or until they have attempted *150% of the required coursework* in their current program/declared major. All credits attempted at Saint Paul College count toward the maximum timeframe. This includes withdrawals, incompletes, non-credit courses, and courses that have been repeated. Credits taken under a previous major and transfer credits will count toward maximum time frame provided they fulfill requirements of the current program/declared major.

Implementation

A student will be placed on financial aid suspension for failure to maintain satisfactory academic progress. 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 the subsequent term and will be notified by mail.

3. A student on probation who fails to meet minimum satisfactory academic progress requirements for a consecutive term will be placed on financial aid suspension for the next term and will be notified by mail.

Saint Paul 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 registered 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).

Appeals must be submitted in writing on the *Appeals 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 the written explanation. Appeals must be submitted to the Financial Aid Office. The appeal will be considered by the Financial Aid Appeal Committee. A written decision on the appeal will be provided to the student. The decision will be final.

If the appeal is denied, the student may return to school without financial aid. After successful completion of a six credit semester, the student may request reinstatement of financial aid for the next term. Successful completion means passing all classes attempted with a "C" grade in each class. However, the student will remain on probation until he or she achieves a minimum cumulative GPA of 2.0 and a 67% completion rate. If this requirement is not met for the term, the student will remain on suspension for financial aid eligibility.

Education Tax Credits

The Taxpayer Relief Act (TRA) of 1997 provides for two tax credits that students may be eligible to claim: The Hope Scholarship Tax Credit and the Life-Long Learning Tax Credit. The Hope Scholarship Tax Credit is a tax credit and not a scholarship. If you do not pay federal income tax, this credit will not apply to you. The credit applies to students enrolled at least half-time for at least one term during the calendar year. The credit applies only to citizens or permanent residents of the United States. The credit applies only to tuition and academic fees paid for by the taxpayer (not by grant or third party sponsor). If your grant or other payment will pay for books or other living costs and you pay for tuition and academic fees yourself, you may claim the credit; however, you must report the grant or other payment as income.

Many details surround the Hope Scholarship Tax Credit and the Life-Long Learning Tax Credit. Saint Paul College does not provide Income Tax Counseling. We recommend that you consult with a tax professional to see if you qualify. Information on the Hope Scholarship Tax Credit is available in the Tuition Office. Tax Credit brochures are available in the Financial Aid Office. Tax Credit brochures are available in the Financial Aid Office.

Enrollment and Student Services

Office of Enrollment Services

Enrollment Services provides prospective and current students with up-to-date information on program options and guide sheets that help steer students through the application and registration processes. This office also processes requests for those students who want to change their major program, as well as applications for admission to the various selective programs offered at the College. Students may also use the computers in Enrollment Services to print copies of their term schedules and their bills. For assistance, call 651.846.1555

Transfer Center

The Transfer Center staff works with students transferring to Saint Paul College as well as those planning to transfer on to a 4-year college or university, including students enrolled in the College's Associate in Arts degree. The Transfer Center also serves as a resource center for students investigating transfer opportunities, articulation agreements, and other college and university application and admission requirements. Transfer guide sheets are located in the Transfer Center. The center is located in room 159. Advising is available for students interested in transferring to a Bachelor degree program. The Transfer Center also hosts a variety of visits to Saint Paul College by admissions representatives from many regional colleges and universities. For transfer assistance call 651.846.1739 or visit our website at www.saintpaul.edu/academics/transfer

Academic Advising

Program faculty advisors assist students with program planning and course selection. They provide detailed information about programs, employment opportunities and transfer options. Students are strongly encouraged to meet with their faculty advisor prior to registering each term.

Counseling

A certified counselor is available to assist students with personal counseling related to educational, social, personal, developmental and life career planning goals. The on staff counselor also provides crisis intervention services, career counseling, mediation, referrals to community agencies, and consultations when needed. The Counseling Center is located in room 155S and is available on an appointment or emergency walk-in basis. For assistance, call 651.846.1383

Support Services for ESL Students

In addition to general services at the College, English-as-a-Second-Language (ESL) students have access to services to meet their specialized needs. An ESL assessment for students whose native language is not English is available to assist in appropriate course placement. The College also offers a wide range of courses to assist ESL students in building English skills in reading, writing, speaking and listening. These courses may be available prior to or during enrollment in the major program. ESL students also have access to the Language Lab where they can receive additional assistance from ESL faculty in building their English skills.

For more information on services available to ESL students, please contact the Office of Enrollment Services at 651.846.1555.

Veterans Educational Benefits

Saint Paul College is approved for the instruction of veterans and orphans of war veterans who have training needs and who are entitled to participate in federal financial assistance programs. A College representative is available to assist veterans with application to the College and eligibility for veterans' benefits. For more information, please contact the Registrar, 651.846.1372.

Disability Services

Saint Paul College is committed to providing equal access to educational opportunities to all students, including those with disabilities. The Director of Disabilities Services Office provides direct assistance such as information, referral, advocacy, support, and academic accommodations for students. Accommodations are made on an individualized and flexible basis. Students with disabilities are responsible for seeking assistance and providing acceptable documentation of their disability prior to receiving accommodations.

The Director of Disability Services assists in the transition of students with disabilities to Saint Paul College programs. The Director of Disability Services is responsible for identification, referral, advocacy, accommodation and interagency coordination. The Director of Disability Services is located in Student Services and can be reached at (651) 846-1457.

Reasonable Accommodation Policy

Disability Services fosters programmatic and environmental access to students with disabilities so that they can achieve their educational goals. The Office also serves as a resource on disability issues to the College and the community.

Procedures for Obtaining Services

All students who wish to receive assistance through Disability Services must meet with the Director and provide acceptable documentation of their disability prior to receiving services. Available services will be explained and those deemed appropriate will be provided upon the student's request.

Eligibility and Documentation

Any person who has a documented disability, permanent or temporary, who is a student or prospective student at Saint Paul College, and who is qualified for educational programs is eligible for services.

Saint Paul College requires students with disabilities to submit documentation of their disability prior to receiving academic accommodations. The college requires that documentation:

- Clearly state the diagnosed disability or disabilities
- Describe the tests performed in making the diagnosis
- Describe the functional limitations resulting from the disability or disabilities
- Be current (less than 3 years old)
- Describe the specific accommodation(s) requested
- Adequately support each of the requested accommodations

- Be typed or printed on official letterhead and be signed by an evaluator qualified to make the diagnosis, including information about license or certification and area of specialization).

Any documentation that fails to meet any of these criteria may not be sufficient to receive accommodations. Individualized Education Programs (IEP's) are not sufficient documentation to receive accommodations at the higher education level. Students whose documentation is insufficient are invited to resubmit additional documentation at any time. Saint Paul College is not responsible for providing accommodations to students who have not submitted adequate documentation.

Rights of Students with Disabilities

All students at Saint Paul College have the right to be treated with dignity and respect by all staff and employees at the college. Students with disabilities have the right to:

- Have information regarding their disability and services they receive kept confidential and disclosed only on a need-to-know basis
- High quality services and assistance in accordance with Saint Paul College policies and procedures
- Evaluate the services they receive and bring to the attention of the Director of Disability Services any concerns or problems related to the delivery of services
- Appeal any denied requests for services. All denials will be documented and kept on file by the Disability Services Office.

Students with disabilities should begin working with the Disability Services Office as soon as possible to allow time to put accommodations in place.

Available Services/Accommodations

Saint Paul College offers the following services to students to remove environmental and programmatic barriers related to a disability:

- Advocacy
- Support and counseling
- Information and referrals
- Early registration

Physical Access Accommodations

- Assistive listening devices
- Academic accommodations
- Sign language interpreters
- Assistive computer software
- Notetakers

- Test proctoring/accommodations such as extra time, quiet room, tests on tape

- Written materials made available on tape or in other alternative formats

- Adaptive equipment

- Recorders and scribes

- Transition services

- Assistance with course selection and program advising

- Other services as deemed appropriate be staff

Sign Language Interpreters and Notetakers for Deaf Students

Sign Language Interpreters assist deaf and hard-of-hearing students with classroom communication, as well as communication with students, faculty and staff. Many College events are interpreted/transliterated for deaf students/staff. Notetakers are often necessary during class lectures so deaf and hard-of-hearing students can concentrate fully on the interpreter. Some deaf and hard-of-hearing individuals do not know or use American Sign Language. They may depend entirely on lip reading to communicate. Oral interpreters and notetakers may provide necessary communication when instructors are not facing them. FM aids are available for those hard-of-hearing individuals who wish to use assistive listening devices/equipment during lectures or group discussions.

Contact Disability Services

Any questions should be directed to Disability Services, 651.846.1547/1548 TTY. The Office of Disability Services is located in the Office of Enrollment Services. For difficulty with any requested accommodation, please contact the Disability Services Office in a timely manner for assistance.

Section 504 of the Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990

Persons with disabilities have the right to equal opportunity for education as prescribed by law. Disability Services is responsible for creating a barrier-free environment while empowering students to grow towards independence and self-assertion.

Career Resources and Classes

Saint Paul College offers a variety of career resources to assist individuals in deciding on a career that matches one's interests, skills and goals.

Career Counseling

Assistance with career exploration and career decision-making is available through the Career and Placement Center. One-on-one assistance is available by appointment. Call 651.846.1384 to schedule an appointment.

Career Classes

College Success Strategies and Career Resources is a two-credit career and college success class offered each semester. This class is for students who want to gain knowledge of career resources and the career planning process and who want to learn to study more effectively for college success. This class also provides career assessments, career resource information and planning strategies that will assist in developing an individualized career plan.

Career Workshops

Career workshops provide individuals with a jumpstart on their career planning and decision-making process by offering career assessment and career resource information in a shorter format than the career classes. Workshops are offered to small groups throughout the year.

Computerized Career Resources

Students can explore interests and career options by using a computerized career planning tool, the Minnesota Career Information System (MCIS). MCIS has up-to-date information on careers that match student interests. For each step of the career planning process MCIS will help with answers to questions related to career, education and job outlook. MCIS will assist a student to: decide on a career, find an educational program, select a transfer college and locate financial aid. MCIS is available online through the College. For access information, call 651.846.1317.

ISEEK is another Internet-based career information system that can assist in career planning. For more information on ISEEK, visit the Web site at www.iseek.org.

Vocational Evaluation

Vocational evaluation is available to secondary and post-secondary students with disabilities. Evaluation provides assistance in career planning through assessment of interests, aptitudes and abilities. Please call 651.846.1317.

Additional Services

Child Care

Services are offered to students enrolled at Saint Paul College, which sponsors on-campus child care in partnership with the Children's Home Society & Family Services (CHSFS). The Center has separate areas that provide appropriate care to three age groups: infants, toddlers and preschoolers.

Interested students may enroll their children on a schedule that accommodates their college class schedule. Student parents are encouraged to visit with their children during class breaks. For information on Center costs and available financial aid, call 651.846.1581. The Center is open year round. Operating hours are Monday through Friday from 6:30am to 4:30pm, except College holidays.

Cafeteria

Food service is available in the City View Café Monday through Friday. Breakfast, lunch and dinner are served daily. Snacks are available throughout the day. Refer to the College Web site (www.saintpaul.edu) for the cafeteria schedule. The Café is closed during holiday breaks, semester breaks and when school is not in session.

Student Lounges

City View Commons is available to students to dine, study, or just meet friends. A lounge area is also located by the 3rd floor skyway.

Parking Registration and Fees

All Saint Paul College students are required to have a registered parking permit. Students with handicapped certificates or state-issued handicapped plates are also required to display a Saint Paul College permit. Registration is considered complete when the permit is properly affixed to the registered vehicle. The fees paid for permits do not reserve nor guarantee a parking space. Refer to the last page of this catalog or the *Student Handbook* for complete information on the College's Parking Policy.

Campus Security

Evening escort services are available for students. The Campus Security phone number is 651.846.1322. Security staff normally patrol the campus between the hours of 7:00am and 10:30pm. The Campus Security and Crime Report is published annually. Copies of this report are available from the Information Center. Refer to the *Student Handbook* for complete information on Campus Security and the Crime Report.

Bus Transportation

Students who live in the Saint Paul-Minneapolis metro area can access the College using Metropolitan Transit Commission (MTC) bus service. MTC bus passes are available for purchase at the Bookstore. Free MTC bus schedules are also available in the Bookstore. For additional information, call the MTC Information Center at 612.373.3333 or www.metrotransit.org.

Health Services

Saint Paul College provides first-aid kits with procedures distributed to all instructors. Information about additional health resources is available from the Dean of the Health and Service Program. Please follow the procedures below regarding your health:

- You should take an active role in your own wellness and health.

- You should wear appropriate medical alert tags (e.g., diabetic or seizure IDs) to assist emergency personnel in assessing an illness or injury more quickly.

- Notify a staff member immediately if you have a question about a medical condition or injury. If you are unable to find a staff member, call Security at 651.846.1322.

Health Insurance

All students are strongly encouraged to have health insurance as students are responsible for the costs of personal health care, including injuries at the College or Clinical site. Students who do not have medical coverage may purchase an insurance plan for students. This insurance plan is made available through the Minnesota State Colleges and Universities state insurance plan. This insurance coverage is available to all students, with an option for dependent coverage. Students may purchase the plan for a term or for the year. Brochures are available at the College Information Center.

International students enrolled with a student visa are required to purchase a health insurance plan from the College.

Housing

Saint Paul College does not provide residence hall facilities for its students; however, housing information is often posted on campus bulletin boards. Students can also obtain information about available housing from area newspapers and other community publications. The College assumes no responsibility for housing information or housing referrals that are posted or appear in those publications.

Lockers

The Tuition Office distributes locks for College lockers on a first-come, first-served basis beginning approximately two weeks prior to the start of the semester. Only Saint Paul College locks may be used and a $5 refundable deposit is required. Students may use the lock on any available locker and must remove all personal effects at the end of the academic year or when no longer enrolled in the College. Students

who are interested in obtaining a locker should stop by the Tuition Office for further information.

Lost and Found

Lost and found items may be turned in to the Administration Offices front desk. Due to the volume of items found, unclaimed items will be discarded or donated to charity the first business day of each month. Lost or stolen items are not the responsibility of Saint Paul College. To inquire about a lost article, stop by the Administration Office or call 651.846.1600.

Student Identification Cards

Students must obtain an identification (ID) card in Room 149 with a receipt of tuition payment and a valid drivers license or state identification. The ID card is required for many school activities and services and allows students to check out library materials. ID service hours are posted outside Room 149.

Saint Paul College Foundation

The Foundation was developed in 1986 by a group of individuals concerned about the welfare of today's students. The Foundation's mission is to obtain and distribute resources necessary to support students, faculty, programs and Saint Paul College's vision. The purpose of the Foundation is to solicit private contributions from the community as a means to increase the number of available resources for the College and its populations. The intent of the Foundation is to build partnerships with community leaders and residents to strengthen Saint Paul College.

By generating external funding for Saint Paul College, the Foundation will provide more opportunities for students through scholarships, endowments, advanced technology equipment and additional training machinery. The Foundation will do everything possible to reduce financial obligations for students in pursuit of learning.

For more information, please visit our Web site at www.foundation.saintpaul.edu or contact the Foundation Director at 651.846.1469

Student Life

Student Government

Many students each year are proud to contribute their time and energy to Saint Paul College Student Senate. The Student Senate is the official student governing body, which includes the following officers: President, Vice President, Treasurer and Historian. A Parliamentarian and Secretary are appointed by the President.

Recreational events and other functions are planned in the various committees of the Senate. Students who volunteer for a number of projects and activities are joining in a tradition of student involvement at Saint Paul College.

Student Organizations

The Student Senate also includes the following Student Associations:

- **African Heritage Student Association**
- **Spanish Club**
- **Bi-Cultural Enrichment Club**
- **Computer Career Club**
- **Respiratory Committee**
- **Phi Theta Kappa**
- **Medical Laboratory Technicians**
- **Somali Student Organization**
- **Uniquely Challenged Association**
- **Student Ambassadors**
- **African Student Organization**

Each of these associations offers various activities and presentations throughout the school year to the entire student body.

Minnesota Precision Manufacturing Association (MPMA)

This organization is an affiliate of the National Tooling and Machining Association and is open to students of trades that are involved in the working of metals and is the first of its kind in the nation. Their primary focus is to provide for and strengthen the ties between the students of the metal working trades and their potential employers, almost all of whom are members of the MPMA. This includes Precision Machining, Tool Die and Moldmaking, Sheet Metal Fabrication, Design Technologies, Automation and Welding. Activities include mentoring, internships, training seminars, tours and guest lecturers that will provide an avenue for increased student participation in the activities and functions of the Student Senate.

SkillsUSA—VICA

This organization is established exclusively for students in technical, trade, health and service programs. Students participate in a variety of social, community service and educational activities. One of the main events of the school year is the SkillsUSA Championships. Saint Paul College students have represented the College in local, state, national and international competition. Students compete in a wide range of areas, from cake decorating to cosmetology to sheet metal.

Alumni Relations

The College has established an alumni association. All Saint Paul College graduates are encouraged to join. Call 651.846.1305 for further information.

Academic Resource Centers

Academic Support Center

The Academic Support Center provides free peer tutoring in many subjects each term. Tutoring is available in math, writing, science and many other subjects. Peer tutors are academically successful students who help those who want assistance in the course. The Academic Support Center trains the peer tutors, matches tutors with students and monitors the tutoring process.

Library

Mission

The Saint Paul College—A Community & Technical College Library mission is to support and enhance the educational mission of the College. The Library provides essential educational support to the local campus community as well as to the larger library and information communities, by providing access to local, global and diverse information resources. The Library facilitates appropriate use of new and expanding technologies as well as print resources, which are responsive to current academic and technical coursework.

Services

A collection of more than 29,000 books, 158 periodicals and 730 videos and films include subject areas such as liberal arts and sciences, business, computer careers, health, services, technical and trade. Smaller collections of CD-ROMs and audiobooks are available. Materials for career development, personal growth and recreation are also available. Departmental centers house approximately 5,000 additional books and resources.

The Library offers Internet services and Internet subscriptions to resources such as Newsbank and SIRS Researcher. Student e-mail is also accessible. The Library is integrated into the MNPALS consortium. The Library catalog is accessible on MNPALS. Access to over 100 other MNPALS libraries, including all Minnesota State Colleges & Universities campuses, some private colleges and all state agencies, as well as many public library systems is available through interlibrary loan. Magazine articles are available in index, abstract and/or full text formats for more than 2,500 periodicals retrospectively for five years. Access to Lumina, the University of

Minnesota Information System, is available via MNPALS. Patron initiated interlibrary loan service via MNPALS/Minitex is an added MNPALS feature. The Library is also part of the MnLINK library system, providing statewide library and database access.

Library staff are committed to fulfilling the Library mission through ongoing service and education. Library staff encourage full facilitation to library information resources and services. Lifelong learning, critical thinking skills and on-going information literacy are emphasized. Educational guidance is provided for both print and multimedia information resources. Ongoing individual and classroom instruction is provided upon request. The Library is also committed to be an informational resource and educational support to faculty and staff.

Additional Library Services

The Library was renovated during the years 2000 and 2002. This has enhanced current and future student information and research needs in an attractive and inviting environment. The newly renovated Library offers both an open computer lab and a computer classroom. An expanded circulation area is offered, as is an expanded group study area. A lounge reading area is a new amenity. Shelving space has also been increased to accommodate an ever-increasing book collection size.

Library Location

The Library is located on the main floor of the Saint Paul College Campus, in the East Wing across from the Financial Aid office.

Hours and Additional Services

Library hours are 7:00am to 8:00pm Monday through Thursday and 7:00am to 4:00pm Friday. Hours are subject to change. A copy machine is available for student use. The Student ID Card also serves as the library card, which allows for full access to MNPALS, including interlibrary loan.

Instructional Technology Center (ITC)

The Instructional Technology Center (ITC) provides computer labs to students at several locations on campus. Computer labs provide students with access to technology-enhanced learning in math and reading basic skills, software used in courses and the latest in business, multimedia and Internet programming technologies. Computer labs are located on the third floor in Rooms 306 and 308. Students must abide by the Computer Usage Policy while utilizing any computers on campus. Refer to the *Student Handbook* for a copy of the policy. Computer labs are available six days a week (while classes are in session)—Monday through Thursday, 7:30am to 10:00pm, Friday 7:30am to 4:00pm and Saturday 7:30am to 2:00pm.

Learning Center

The Learning Center is available to students to assist them in the development or upgrading of their basic reading, grammar and math skills. Utilizing computer-based courseware, students are able to work on basic skills development at their own pace under the supervision of faculty and center staff. Computer tutorials are also available in science and other subjects. The Learning Center is located in Room 419 and the hours of availability (when classes are in session) are as follows: Monday through Thursday 7:30am to 10:00pm, Friday 7:30am to 4:00pm and Saturday 7:30am to 2:00pm.

Distance Learning

Saint Paul College is committed to providing learning opportunities to students that are free of place or time restrictions. By utilizing the latest technology, the College delivers courses at places and times that are convenient to the student. Courses delivered via Interactive Television (ITV), Satellite connections or the Internet allow students and faculty to communicate regardless of the distance between them. Technology and its application allow the expansion of learning access to educational opportunities which may not be otherwise possible. Additional information may be found online at www.saintpaul.edu..

Bookstore Information

Textbooks and a wide range of school and personal supplies can be purchased from the Bookstore. It is located on the first floor near the main entrance. Please check the College Web site and campus postings for Bookstore hours or call 651.846.1422.

Textbook Costs:

To estimate textbook expenses in advance, please use the Saint Paul College Bookstore Web site, www.saintpaulcollegebookstore.com. The student's course schedule will have the information needed to find out more about required textbooks online. Term, Subject (same as Department for the Web site), Course Number and Section Number are needed for textbook inquiry. The listed costs are current estimates.

Textbook Orders/Reservations:

Students may also order or reserve their textbooks online at the following Web site: www.saintpaulcollegebookstore.com. For Web orders and reservations, a credit card is required. The Bookstore accepts Visa, MasterCard or Discover. If students wish to pay by cash, personal check, or book voucher, they may reserve their textbooks online and pick them up at the Bookstore.

Textbook Refunds and Buy-Back Policy: Full refunds for most textbooks are given within ten school days of purchase, providing there is proof of purchase (receipt) and the textbook is in new condition. Textbooks returned prior to the tenth day that are not in new condition will be refunded at current used book pricing. After the tenth day, students will be encouraged to sell their books at the *Textbook Buy-Back*. See the Web site for additional refund information. In an effort to keep textbook costs down, the Bookstore attempts to stock used books whenever possible. In addition, the Bookstore schedules a *Textbook Buy-Back* at the end of each semester, where students may resell their textbooks for cash.

Rights and Responsibilities

Academic Integrity Policy

Saint Paul College—A Community & Technical College fosters the highest standards of academic integrity and the highest regard for truth and honesty. The attempt by students to present as their own any work not actually performed by them; collusion, fabrication and cheating on examinations, papers and other course-related work; stealing, duplicating or selling examinations; substituting for others in class discussions or examinations; producing other students' papers or projects; or knowingly furnishing false or misleading academic information on official College records, are considered violations of academic integrity and destructive to the central mission of the College.

Students who violate academic integrity shall, after due process, be subject to College sanctions that may include failure on assignments and examinations, failure in courses and suspension or expulsion. Established academic integrity policies, procedures and sanctions are communicated in classes and publications, such as the *Student Handbook*.

Directory Information/Data Privacy

Saint Paul College, in compliance with the Federal Educational Rights and Privacy Act (FERPA) and the Minnesota Data Protection Act, affords students certain rights with respect to their education records. Students can inspect and view their records within 45 days of the date the Registrar receives a written request for access. Students may ask the College to amend a record by writing to the Registrar and clearly identifying what part of the record is inaccurate. Records will not be released to a third party without permission from the student except to those officials or agencies with specific legal authorization. The following information has been

designated as directory information and, as such, is available to the general public: student name; major program of study; dates of attendance; degrees, diplomas, certificates and awards received; full-time or part-time status; and participation in recognized activities. To prevent release of this information outside the College, the student should contact the Student Records Office to sign the *Non-Disclosure Form.*

E-mail addresses are viewed by Saint Paul College as valid addresses for the institutional purpose of distributing student related information, updates, important dates, payment reminders, enrollment dates, etc.

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

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

Code of Student Conduct

Saint Paul College, as a part of Minnesota State College and Universities, operates under the Board of Trustees and recognizes that your rights as a student must be respected.

You are expected to be familiar with the Code of Student Conduct. Your rights and responsibilities, as a student and the expectations of the College are described in the Code of Student Conduct. Refer to the *Student Handbook* for a copy of the Code of Student Conduct.

You are responsible for conducting yourself in a manner that does not interfere with the educational process. Behavior that is threatening to the safety or welfare of yourself or others, or that is harassing or discriminatory in nature, will be reviewed promptly by the College and appropriate action will be taken. The Code of Student Conduct does not replace nor reduce the requirements of civil or criminal laws.

The College has established a Code of Student Conduct that details procedures for the administration of StudentConduct proceedings. You shall be afforded appropriate due process in the adjudication of any charge(s) of violations of the Code of Student Conduct. Students found guilty of violations may be subject to sanctions, including suspension or expulsion.

Allegation of discrimination or harassment shall be adjudicated under separate procedures in accordance with Saint Paul College policies on those issues.

Complaints and Grievances

Saint Paul College has a Student Complaint and Grievance procedure. Both procedures are outlined in the *Student Handbook*, which is available online at *www.saintpaul.edu*. If students feel that any of their rights have been violated, they should follow the process as outlined in the *Student Handbook*.

Discrimination and Harassment Policy

Saint Paul College is committed to providing students with an educational environment free from discrimination and harassment.

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, or inclusion in any other group or class against which discrimination is prohibited.

It shall be a violation of this policy for any student, instructor, administrator or other college personnel to harass a student, instructor, administrator or other College personnel through conduct or communication of a sexual nature or regarding religion and race as defined by this policy. (For purposes of this policy, College personnel includes College employees, agents, volunteers, contractors or persons subject to the supervision and control of the College.)

It shall be a violation of this policy for any student, instructor, administrator or other personnel of the College to inflict, threaten to inflict, or attempt to inflict racial, disability, or sexual violence upon any student, faculty member, administrator or other college personnel.

The College will act to investigate all complaints, either formal or informal, verbal or written, in violation of this policy.

Refer to the *Student Handbook* for additional information on the Discrimination and Harassment Policy.

Drug and Alcohol Policy

Saint Paul College has a policy regarding alcohol and other drug use, including unlawful drug use or abuse in the workplace, in accordance with the Drug Free Workplace Act of 1988 (Public Law 100-690, Title V, Subtitle D) and Drug Free Schools and Communities Act Amendments of 1989 (Public Law 101-226). A copy of the Drug and Alcohol Free Campus information is available in the *Student Handbook*.

The College forbids the unlawful possession, use or distribution of alcohol and drugs on the College premises, or in conjunction with any College-sponsored activity or event. The College will impose sanctions on students who violate this policy. This prohibition of possession or consumption of alcoholic beverages on campus applies regardless of age.

Smoking and Tobacco Policy

Smoking and the use of tobacco products are only permitted in designated areas on the College campus.

Academic Standards

Grade Point Average

A college-level cumulative grade point average of 2.0 (C) is required to graduate with a degree, diploma, certificate or completion of the Minnesota Transfer Curriculum.

Grade Point Average Computation

For each grade students earn in a course, they will be assigned honor points.

Grade	Honor Points
A	4
B	3
C	2
D	1
F	0
S	2
I	0
P=Pass	0#
AU=Audit	0#
W=Withdraw	0#

On the transcript, Letter Grade * indicates a repeated course.
Not calculated in the GPA formula.

The student's GPA is obtained from these honor points by calculating the total number of points (honor points per credit times the credits for each course) and dividing that total by the total course credits. An example follows:

Course	Credit	Grade	Honor Pts
BIOL 1740	4	B	12
PSYC 1710	4	A	16
ADMS 1410	3	F	0
ADMS 1418	3	S	6
ADMS 1435	3	P	0
Total:	17		34

GPA = 34 / 14 = 2.42

Grade Report

End-of-term grade reports are available online approximately 10 days after the term ends at www.saintpaul.edu.

Satisfactory Academic Progress Standards

It is the responsibility of the student to maintain a cumulative grade point average (GPA) of 2.0 and/or a course completion of at least 67% of attempted credits. Once a student has accumulated 12 or more credits, if the student's cumulative GPA and/or completion rate falls below the minimum, the student may be placed on academic probation. If the cumulative GPA and/or completion rate falls below minimum standards for a second term, the student may be suspended from the College. A 2.0 overall GPA is required for graduation.

Exception: A letter grade of "D" is considered to be a failure in the following programs: Practical Nursing, Medical Laboratory Technician, Respiratory Care Practitioner and Sign Language Interpreter/Transliterator AAS (language and interpreting skill classes).

Incomplete Grades

Illness or other unforeseen emergency that prevents students from completing course requirements within the allotted time should be communicated to the instructor as soon as possible. The student may be granted an extension after filling out an *Incomplete Grade Request Form* which must be signed by both the instructor and the student.

If students have received an extension period to complete work for a course, they will be temporarily assigned the grade of incomplete "I." If students do not complete the course requirements within the extension period, the incomplete status will be turned into a grade of "F." Fall Semester is considered the next term for incomplete grades approved for Spring Semester or Summer Term. The extension period starts at the end of the current semester and may not exceed eight weeks.

If students receive financial aid, extension periods are limited to eight weeks. A grade must be assigned within that time so that the student's grade point average can be calculated to determine future eligibility for aid.

Course Audits

Students may audit a course on a space-available basis. To audit a course, students must:

1. Register for the class under audit status and pay the required tuition.

2. Obtain instructor approval during the first class session.

3. Provide the Student Records Office with a signed statement from the instructor and the student.

Courses taken on audit status do not count toward requirements for degrees, diplomas, or certificates. In addition, audited courses do not qualify for financial aid or for veterans' benefits.

Repeated Courses

Students may repeat a course for the purpose of achieving a higher grade or to review course material. Credits will be counted only once as "earned credits." Transfer credits will be removed for any repeated course at Saint Paul College. If both the original and the repeated grade are taken at Saint Paul College, both will appear on the student's transcript. The highest grade will be used to compute the grade point average (GPA). Credit by Exam and independent studies are not acceptable means of making up a failed course. If a student requests to repeat a course a third time, permission from the Academic Dean is required.

Veteran's benefits will not be paid for repeated courses.

Maximum Credit Load

To register for 24 or more credits in a semester or more than 9 credits in summer session, students must obtain authorization from the Office of Enrollment Services.

Guidelines to exceed the limit are as follows: If the student has compiled at least a 2.75 GPA at the College and has accumulated 20 credits; if a student transfers in with a 3.0 GPA and an accumulation of 20 credits; or if there are other documented circumstances that justify the exception.

Credit by Examination/Test-Outs for Technical Credit

Registered students who are able to demonstrate achievement in the content of a college-level course may be eligible to receive credit toward a degree. The College offers Credit by Examination for students in technical (non-general education) programs for a course provided that no CLEP exam exists. For testing out of general education courses and selected business courses,

students may take the CLEP exam (see *CLEP Policy*).

Credit by Exam is determined on a case-by-case basis in selected areas and is at the instructor's discretion. The fee for Credit by Exam is one-half of that course's tuition charge. A maximum of 12 credits may be earned at the College through Credit by Exam. Credits earned by examination do not count toward the Saint Paul College residency requirements. Credit is given only for courses included in Saint Paul College curriculum. **Note:** Successful Credit by Exam will apply to the Saint Paul College program in which the student is enrolled. Other colleges have their own policies for Credit by Exam and may not accept Saint Paul College Credit by Exam in transfer.

If a student passes the exam, an entry will be made on the transcript with CBE (Credit by Exam) listed with the course title. Students may test only once for each course. No credit by examination will be granted when a student has earned a grade in a more advanced course in the discipline.

Credits received through Credit by Exam are not eligible for financial aid.

Applicants for Credit by Exam credit must contact the Student Records and Registration Office to start the process. Credit by Exam must be completed prior to the 5th day of a course in which a student is currently enrolled.

Conversion

The conversion of quarter hours to semester hours is 0.67 for each quarter hour.

Graduation

To be eligible to graduate from Saint Paul College, students must:

- earn the total required credits and courses listed within the program plan;
- earn a cumulative GPA of 2.0 in 1000 level courses or above;
- complete the *Graduation Application* in the Student Records Office; and
- fulfill all financial obligations to the College.

A graduation ceremony is held in May for students completing their programs during the academic year.

Degrees/diplomas/certificates are conferred by the President to the graduates of Saint Paul College—A Community & Technical College under the authority of the Minnesota State Colleges and Universities Board of Trustees.

Degree Residency

A student shall earn a minimum of 20 credits for all associate degrees at Saint Paul College. The residency requirement shall be reduced to 12 college-level credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution and the University of Minnesota. One third of the credits required for a diploma, certificate, or the Minnesota Transfer Curriculum (MnTC) must be earned at the College.

Time Limits for Graduation Requirements

Students entering Saint Paul College will have five years in which to complete their work under the terms of the catalog in effect at the time of their first enrollment. Students must have been in attendance during the catalog year selected. Students taking more than five years to complete their graduation requirements may follow any catalog in effect during the five-year period preceding their date of graduation.

Students must declare which catalog year requirements they will follow on the *Graduation Application*. Students who have a break in their attendance for one year or longer are encouraged to meet with a counselor or advisor to discuss their educational plans.

To ensure students graduate with up-to-date skills, technical credits are valid for five years or have a five year "lifespan." This includes transfer technical credits which are used for specific technical program requirements. Technical courses that are beyond the five-year limit may be accepted, depending upon currency, relevancy and the student's current work experience.

Appeals for Exceptions to College Policy

Students who have questions or want to request an exception to College policy will be handled through an appeals process.

Students must fill out a *Petition Form* and state the exact nature of the requested appeal. Petition forms should include appropriate documentation. Completed forms should be submitted to the Student Records Office.

Educational Degree Programs

Liberal Arts and Sciences

Associate in Arts Degree

The Associate in Arts (AA) degree is the newest degree offering at Saint Paul College. The AA degree is awarded for successful completion of a program of 64 semester credits in liberal arts and sciences and is designed to constitute the first two years of a baccalaureate degree. The AA is a liberal arts degree intended primarily for students who plan to transfer to another college or university to complete a bachelor's degree. No specific major is listed in conjunction with the degree; however, students may choose to concentrate in a particular field of study in preparation for a planned major or professional emphasis at a four-year college or university. An AA degree must include the entire Minnesota Transfer Curriculum (40 semester credits), which, pursuant to Minnesota statute, must transfer to any institution in the Minnesota State Colleges and Universities system or the University of Minnesota. Students are to develop an educational plan in consultation with a Saint Paul College Transfer Specialist to assure that degree requirements are fulfilled since requirements may vary depending upon the major and transfer college.

Program Outcomes

- Knowledge of the important concepts and principles of the natural sciences, mathematics, history, social and behavioral sciences, arts, and humanities.

- Skills necessary for life roles, including skills in thinking, communication and methods of inquiry and applications of knowledge.

- Critical examination of and an appreciation for diverse people, cultures and life roles.

General Requirements

- At least 64 earned college-level credits (40 MnTC credits and 24 additional MnTC and/or pre-major elective credits)

- A grade of "C" or better in ENGL 1711

- Cumulative GPA of 2.0

- Meet Saint Paul College residency requirement: 20 credits. The requirement shall be reduced to 12 credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution and the University of Minnesota.

Total Credits Required for the AA Degree

Minnesota Transfer Curriculum (MnTC)	40 credits
Additional MnTC and/or pre-major elective courses	24 credits
Total Requirements	**64 credits**

MnTC Distribution Requirements for the AA Degree

The minimum Minnesota Transfer Curriculum (MnTC) distribution requirements for the AA degree are listed below. (Refer to the *MnTC Course List*)

MnTC Goal 1: Communication		9 credits
ENGL 1711	Composition 1	4 credits
ENGL 1712	Composition 2	2 credits
Select one of the following:		
SPCH 1700	Introduction to Speech Communications	3 credits
SPCH 1710	Fundamentals of Public Speaking	3 credits
SPCH 1720	Interpersonal Communication	3 credits
SPCH 1730	Intercultural Communication	3 credits
SPCH 1750	Small Group Communication	3 credits

MnTC Goal 2: Critical Thinking

Fulfilled when 10 goal areas (40 credits) are completed.

MnTC Goal 3: Natural Sciences   **7 credits**

Minimum of two courses from two different disciplines, one of which must be a lab course.

MnTC Goal 4: Mathematical/Logical Reasoning   **3 credits**

Minimum of one course.
(Courses must be numbered between 1700-1799 or 2700-2799)

MnTC Goal 5: History and the Social and Behavioral Sciences   **9 credits**

Minimum of three courses from three different disciplines.

MnTC Goal 6: Humanities and Fine Arts   **9 credits**

Minimum of three courses from three different disciplines.

MnTC Goal 7: Human Diversity

One eligible course.

MnTC Goal 8: Global Perspective

One eligible course.

MnTC Goal 9: Ethic and Civil Responsibility

One eligible course.

MnTC Goal 10: People and the Environment

One eligible course.

Note: Refer to the MnTC Course List. Some courses may be applied to more than one goal area. If you meet the MnTC goal requirements with fewer than 40 semester credits, select additional MnTC courses to complete the minimum requirement of 40 semester credits.

Associate in Science Degree

The Associate in Science (AS) degree is awarded for successful completion of a program of 60–64 semester credits in a designated field or area which transfers to a baccalaureate major in a related scientific or technical field. The AS degree provides a balance of liberal arts education and career-oriented classes. The AS degree prepares students for direct employment; however, articulation agreements must exist between the institution awarding the Associate in Science degree and an institution awarding a related baccalaureate degree. An Associate in Science degree shall include a minimum of 30 semester credits in general education as described in the MnTC distribution requirements for the AS degree.

Transfer Note: While the AS degree has more limited transferability than the AA degree, specific transfer articulation agreements exist with designated four-year colleges and universities for each AS degree. Minnesota Transfer Curriculum courses within the AS degree transfer to institutions in the Minnesota State Colleges and Universities system and other colleges. Please see College staff and refer to the *Transfer Articulation Agreements Table* for specific information.

AS Degree Programs

Business Management

Child Development Careers

Computer Network Engineering Specialist

Computer Programming Specialist

Geomatics (Land Surveying) and Mapping Sciences

Human Resource Specialist

Management Information Systems

General Requirements for the AS degree:

- 60–64 earned college-level credits (a minimum of 30 credits from MnTC courses)

- Cumulative GPA of 2.0

- Meet Saint Paul College residency requirement: 20 credits. The requirement shall be reduced to 12 credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution and the University of Minnesota. For specific course requirements, see the individual program descriptions, located in Enrollment Services or speak with the faculty advisor.

MnTC Distribution Requirements for the AS Degree

The minimum Minnesota Transfer Curriculum (MnTC) distribution requirements for the AS degree are listed below. Credit and course requirements are specific for each program. Refer to the curriculum requirements listed in the *Programs of Study* for each AS degree program.

Note: Specific course recommendations or requirements for some AS degree programs may apply.

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 (7 credits)   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 4 credits from Goal 5   4

> Goal 5: History, Social Sciences and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 13 additional credits from Goals 1–10 of the Minnesota Transfer Curriculum   13

> Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Associate in Applied Science Degree

The Associate in Applied Science degree (AAS) is awarded for successful completion of a program of 60–72 semester credits and is intended for students who desire immediate employment upon graduation. At Saint Paul College, the AAS program shall include a minimum of 20 semester credits of liberal arts and sciences courses as described in the MnTC distribution requirements for the AAS degree.

Transfer Note: The AAS degree is not intended to transfer to an upper-division college; however, some articulation agreements exist with designated four-year colleges and universities for several of the AAS degree programs. Minnesota Transfer Curriculum courses within the AAS degree transfer to institutions in the Minnesota State Colleges and Universities system and other colleges. Please see College staff for specific information and refer to the *Transfer Articulation Agreements Table*.

AAS Programs

Accountant

Administrative Assistant

Auto Body Repair

Automotive Service Technician

Chemical Laboratory Technician

Child Development Careers

Computer Network Engineering

Computer Programmer

Cosmetology

Culinary Arts

Electronic Nanotechnology

Electronic Technology

Energy Process Technology

Engineering Technology

Esthetician

Health Information Technology *(Pending)*

Hospitality Management

Human Resource Specialist

International Trade Specialist

Medical Office Professional

Medical Laboratory Technician

Practical Nursing

Respiratory Therapist/Respiratory Care Practitioner

Sign Language Interpreter/Transliterator

Visualization Technology

General Requirements for the AAS Degree:

- 60–72 earned college-level credits (a minimum of 20 credits from MnTC courses)

- Cumulative GPA of 2.0 or higher

- Meet Saint Paul College residency requirement: 20 credits. The requirement shall be reduced to 12 credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution and the University of Minnesota. For specific course requirements, see the individual program descriptions, the Office of Enrollment Services staff or the faculty advisor.

MnTC Distribution Requirements for the AAS Degree

The minimum Minnesota Transfer Curriculum (MnTC) distribution requirements for the AAS degree are listed below. Credit and course requirements are specific for each program. Refer to the curriculum requirements listed in the *Programs of Study* section for each AAS degree program.

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 (7 credits)	7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4	3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5	3

> Goal 5: History, Social Sciences and Behavioral Sciences

Select a minimum of 3 credits from Goal 6	3

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1–10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Diploma Programs

Diplomas are awarded for successful completion of 30–72 semester college-level credits and are intended for students who desire entry-level employment skills or career advancement. Students in diploma programs are required to complete technical courses as well as general education courses.

Certificate Programs

Certificates are awarded for successful completion of 9–30 semester college-level credits. Certificates are awarded for successful completion of a program intended to provide students with entry-level employment skills or to enhance a student's technical skills.

Internships

Some major program areas require an internship. For other areas, an internship is optional. When students are ready to complete this phase of their training, they should consult with their faculty advisor to set up and coordinate the internship.

While completing the internship, the student remains registered at Saint Paul College. Students are not excused from tuition payment and must continue to meet course requirements for all courses in which they are enrolled.

Saint Paul Joint Apprenticeship

Saint Paul College has worked with the building trades for many years. In cooperation with Advisory and Joint Apprenticeship committees, Saint Paul College works to give trade apprentices the most up-to-date education and training available in the United States.

Most applicants are accepted into an apprenticeship program by either a) working in the occupation, b) being referred by an employer, or c) having completed a pre-apprenticeship training program. To enroll in one of the trade programs, please contact the Office of Enrollment Services for the next available opening date and application. Entrance exams and in some cases interviews, are required.

To enroll in a program without a program completion requirement, students must contact that apprenticeship coordinator. Students may obtain his/her name or number by calling the Trade Division, 651.846.1320.

Saint Paul Joint Apprenticeship Committees

(Includes both day and evening programs)

- Floorcoverers
- Glaziers and Glass Workers
- Ironworkers
- Painters and Decorators
- Pipefitters
- Plasterers
- Plumbers
- Sprinklerfitters
- Tilesetters

Minnesota Transfer Curriculum

The Saint Paul College mission endorses the centrality of general education in its programming and its commitment to offer breadth as well as depth of study in its curriculum. The Minnesota Transfer Curriculum is a coherent requirement of Saint Paul College programs and is clearly identifiable as an integral part of the curriculum. The College is committed to and strives toward outcomes that impart common knowledge, intellectual concepts and attitudes every person ought to possess.

Minnesota Transfer Curriculum Goals

The Minnesota State Colleges and Universities system has developed a common general education curriculum called the Minnesota Transfer Curriculum (MnTC). Completion of this defined transfer curriculum at one institution enables a student to receive credit for all lower division general education upon admission to any other Minnesota public institution.

The MnTC is intended to achieve the following ten goals:

1. **Written and Oral Communication**
   To develop writers and speakers who use the English language effectively and who read, write, speak and listen critically. As a base, all students should complete introductory communication requirements early in their collegiate studies. Writing competency is an ongoing process to be reinforced through writing-intensive courses and writing across the curriculum. Speaking and listening skills need reinforcement through multiple opportunities for interpersonal communication, public speaking and discussion.

2. **Critical Thinking**
   To develop thinkers who are able to unify factual, creative, rational and value-sensitive modes of thought. Critical thinking will be taught and used throughout the general education curriculum in order to develop students' awareness of their own thinking and problem-solving procedures. To integrate new skills into their customary ways of thinking, students must be actively engaged in practicing thinking skills and applying them to open-ended problems.

3. **Natural Sciences**
   To improve students' understanding of natural science principles and of the methods of scientific inquiry, i.e., the ways in which scientists investigate natural science phenomena. As a basis for lifelong learning, students need to know the vocabulary of science and to realize that while a set of principles has been developed through the work of previous scientists, ongoing scientific inquiry and new knowledge will bring changes in some of the ways scientists view the world. By studying the problems that engage today's scientists, students learn to appreciate the importance of science in their lives and to understand the value of a scientific perspective. Students should be encouraged to study both the biological and physical sciences.

4. **Mathematical/Logical Reasoning**
   To increase students' knowledge about mathematical and logical modes of thinking. This will enable students to appreciate the breadth of applications of mathematics, evaluate arguments and detect fallacious reasoning. Students will learn to apply mathematics, logic and/or statistics to help them make decisions in their lives and careers. Minnesota's public higher education systems have agreed that developmental mathematics includes the first three years of a high school mathematics sequence through intermediate algebra.

5. **History, Social and Behavioral Sciences**
   To increase students' knowledge of how historians and social and behavioral scientists discover, describe and explain the behaviors and interactions among individuals, groups, institutions, events and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity.

6. **Humanities and Fine Arts**
   To expand students' knowledge of the human condition and human cultures, especially in relation to behavior, ideas and values expressed in works of human imagination and thought. Through study in disciplines such as literature, philosophy and the fine arts, students will engage in critical analysis, form aesthetic judgments and develop an appreciation of the arts and humanities as fundamental to the health and survival of any society. Students should have experiences in both the arts and humanities.

7. **Human Diversity**
   To increase students' understanding of individual and group differences (e.g., race, gender, class) and their knowledge of the traditions and values of various groups in the United States. Students should be able to evaluate the United States' historical and contemporary responses to group differences.

8. **Global Perspective**
   To increase students' understanding of the growing interdependence of nations and peoples and develop their ability to apply a comparative perspective to cross-cultural social, economic and political experiences.

9. **Ethical and Civic Responsibility**
To develop students' capacity to identify, discuss and reflect upon the ethical dimensions of political, social and personal life and to understand the ways in which they can exercise responsible and productive citizenship. While there are diverse views of social justice or the common good in a pluralistic society, students should learn that responsible citizenship requires them to develop skills to understand their own and others' positions, be part of the free exchange of ideas and function as public-minded citizens.

10. **People and the Environment**
To improve students' understanding of today's complex environmental challenges. Students will examine the inter-relatedness of human society and the natural environment. Knowledge of both bio-physical principles and socio-cultural systems is the foundation for integrative and critical thinking about environmental issues.

Minnesota Transfer Curriculum (MnTC) Course List

To earn the full **Minnesota Transfer Curriculum,** all ten goal areas listed below must be completed. A total of at least **40 semester credits** must be earned. Courses designated with a superscript (e.g., BIOL 1710[10]) satisfy more than one goal area; however, credits are counted only once toward the 40-credit minimum requirement. A (p) indicates a prerequisite is required for that course. Completion of the MnTC meets the lower division general education requirements at Minnesota State Colleges and Universities and the University of Minnesota. Talk to the Transfer Center staff for more information.

To follow the Associate in Science or Associate in Applied Science requirements for general education courses, choose from the MnTC courses in the goals below *according to the distribution requirements for your degree.* The Associate in Science degree requires 30 MnTC credits; the Associate in Applied Science degree requires 20 MnTC credits.

For any additions or changes in the MnTC Course List, contact the College Transfer Specialist for information.

Goal 1: Communication		Credits
ENGL 1711	Composition 1 (Required) (p)	4
ENGL 1712[2]	Composition 2 (p)	2
SPCH 1700[8]	Introduction to Speech Communications	3
SPCH 1710	Fundamentals of Public Speaking	3
SPCH 1720[7]	Interpersonal Communication	3
SPCH 1730[8]	Intercultural Communication	3
SPCH 1750[9]	Small Group Communication	3

Goal 2: Critical Thinking

Fulfilled when all 10 goal areas (40 credits) are completed.

Goal 3: Natural Sciences		Credits
BIOL 1725*[10]	Environmental Science	4
BIOL 1730*	Human Body Systems	3
BIOL 1740*	General Biology 1: The Living Cell	5
BIOL 1745*	General Biology 2: The Living World (p)	5
BIOL 1750*	General Microbiology (p)	4
BIOL 1760	Nutrition	3
BIOL 1780[9]	Contemporary Issues in Human Biology	3
BIOL 1785[9]	Biology of Women	3
BIOL 2721*	Human Anatomy & Physiology 1 (p)	4
BIOL 2722*	Human Anatomy & Physiology 2 (p)	4
CHEM 1700*	Chemistry Concepts (p)	4
CHEM 1711*	Principles of Chemistry 1 (p)	4
CHEM 1712*	Principles of Chemistry 2 (p)	4
NSCI 1710[10]	Earth Science	3
NSCI 1720[10]	Physical Geology	3
NSCI 1730[10]	Introduction to Oceanography	3
NSCI 1740[10]	Introduction to Meteorology	3
NSCI 1750[10]	Natural Disasters	3
NSCI 1760[10]	Descriptive Astronomy	3
NSCI 1770[10]	Introduction to Energy & the Environment	3
PHYS 1720*	Introductory Physics (p)	4
PHYS 2700*	General Physics 1 (w/ Calculus) (p)	5
PHYS 2710*	General Physics 2 (w/ Calculus) (p)	5

*Course contains lab

Goal 4: Mathematical/Logical Reasoning		Credits
MATH 1710	Liberal Arts Mathematics (p)	3
MATH 1730[2]	College Algebra (p)	3
MATH 1740	Introduction to Statistics (p)	4
MATH 1760	Pre-Calculus (p)	4
MATH 2751	Calculus 1 (p)	5
MATH 2752	Calculus 2 (p)	5
PHIL 1710	Logic	3

Goal 5: History, Social Sciences, and Behavioral Sciences		Credits
ANTH 1710[7]	Introduction to Cultural Anthropology	4
ANTH 1720[10]	Physical Anthropology	4
ANTH 1790	Special Topics in Anthropology	3
ECON 1710	Introduction to the American Economy	3
ECON 1720[8]	Macroeconomics	3
ECON 1730[8]	Microeconomics	3
GEOG 1730[8]	Global Economic Geography	3

*Course contains lab
(p) = Indicates course prerequisite

HIST 1730[8]	Contemporary World History	3
HIST 1741[7]	U.S. History 1: to 1865	3
HIST 1742[7]	U.S. History 2: 1865 to the Present	3
HIST 1750[10]	Minnesota History	3
HIST 1760[8]	History of World Civilizations to 1500	3

HIST 1761[8]	History of World Civilizations since 1500	3
HIST 1770[9]	History of Women in the United States	3
HIST 2740[7]	Immigration and Ethnic History of the United States	3
POLS 1720[9]	Introduction to American Government	3
POLS 1750[9]	Introduction to Politics	3
PSYC 1710[2]	General Psychology	4
PSYC 1720[9]	Psychology Throughout the Lifespan	3
PSYC 1730	Introduction to Child Psychology (p)	3
PSYC 1740[7]	Abnormal Psychology (p)	4
PSYC 1750[7]	Intro to Health Psychology	3
SOCI 1710[7]	Introduction to Sociology	4
SOCI 1720[8]	Social Issues in a Changing World	3
SOCI 1730[7]	Sociology of Families and Relationships	3
SOCI 1740[8]	Making a Living in a Global Era: Sociology of Work	3
SOCI 1760	Mass Media and Society	4
SOCI 1765[7]	Sociology of Deviance	3
SOCI 1770[7]	Social Problems in Modern America	3
SOCI 1780	Social Psychology	4
SOCI 1790	Special Topics in Sociology	3
SPCH 1740[9]	Mass Media and Communications	3
SPCH 1745[9]	Mass Media Production Techniques	1

Goal 6: Humanities and Fine Arts — Credits

ARTS 1710	Fundamentals of Photography 1	3
ARTS 1711	Fundamentals of Photography 2 (p)	3
ARTS 1712	Fundamentals of Photography 3	3
ARTS 1720[8]	Art Appreciation	3
ARTS 1730	Drawing 1	3
ARTS 1731	Drawing 2 (p)	3
ARTS 1740	Introduction to Painting	3
ARTS 1760[8]	World Art	3
ARTS 1770	American Art	3
ARTS 1790	History of Photography	3
ENGL 1780[7]	Recently Arrived-Contemporary Immigrant Literature	3
ENGL 1790[7]	Contemporary Writers of Color	3
ENGL 2721[7]	Survey of American Literature 1 (p)	3
ENGL 2722[7]	Survey of American Literature 2 (p)	3
ENGL 2730[2]	Post-Civil War American Novel (p)	3
ENGL 2740[7]	Native American Literature (p)	3
ENGL 2750[7]	African American Literature (p)	3
ENGL 2760[2]	The English Novel (p)	3
ENGL 2770[2]	Introduction to Poetry	3
HUMA 1710[8]	The Art of Being Human	4
HUMA 1720[8]	The Ancient and Medieval World	4
HUMA 1730[8]	The Modern World	4
HUMA 1750[8]	Culture & Civ.: Spanish-Speaking Cultures	3
HUMA 1770[7]	The Art of Film	3
HUMA 1780[7]	American Film	3
HUMA 1790[8]	International Film	3

MUSC 1740[8]	Music Appreciation	3
MUSC 1750[7]	Jazz History	3
PHIL 1700	Introduction to Philosophy	3
PHIL 1720[9]	Ethics	3
PHIL 1750[8]	Eastern Philosophy	3
PHIL 1760[8]	World Religions	3
THTR 1710	Introduction to Theatre	3

Goal 7: Human Diversity — Credits

ANTH 1710[5]	Introduction to Cultural Anthropology	4
ASLS 1435	Deaf Studies/Culture (p)	3
ENGL 1780[6]	Recently Arrived-Contemporary Immigrant Literature	3
ENGL 1790[6]	Contemporary Writers of Color	3
ENGL 2721[6]	Survey of American Literature 1 (p)	3
ENGL 2722[6]	Survey of American Literature 2 (p)	3
ENGL 2740[6]	Native American Literature (p)	3
ENGL 2750[6]	African American Literature (p)	3
HIST 1741[5]	U.S. History 1: to 1865	3
HIST 1742[5]	U.S. History 2: From 1865 to the Present	3
HIST 2740[5]	Immigration and Ethnic History of the United States	3
HUMA 1770[6]	The Art of Film	3
HUMA 1780[6]	American Film	3
MUSC 1750[6]	Jazz History	3
PSYC 1740[5]	Abnormal Psychology (p)	4
PSYC 1750[5]	Introduction to Health Psychology	3
SOCI 1710[5]	Introduction to Sociology	4
SOCI 1730[5]	Sociology of Families and Relationships	3
SOCI 1765[5]	Sociology of Deviance	3
SOCI 1770[5]	Social Problems in Modern America	3
SPCH 1720[1]	Interpersonal Communication	3

Goal 8: Global Perspective — Credits

ARTS 1720[6]	Art Appreciation	3
ARTS 1760[6]	World Art	3
ASLS 1413	American Sign Language 3 (p)	3
ASLS 1414	American Sign Language 4 (p)	3
ECON 1720[5]	Macroeconomics	3
ECON 1730[5]	Microeconomics	3
GEOG 1730[5]	Global Economic Geography	3
HIST 1730[5]	Contemporary World History	3
HIST 1760[5]	History of World Civilizations to 1500	3
HIST 1761[5]	History of World Civilizations since 1500	3
HUMA 1710[6]	The Art of Being Human	4

*Course contains lab

(p) = Indicates course prerequisite

HUMA 1720[6]	The Ancient and Medieval World	4
HUMA 1730[6]	The Modern World	4
HUMA 1750[6]	Culture & Civ.: Spanish-Speaking Cultures	3
HUMA 1790[6]	International Film	3
MUSC 1740[6]	Music Appreciation	3

PHIL 1750[6]	Eastern Philosophy	3
PHIL 1760[6]	World Religions	3
SOCI 1720[5]	Social Issues in a Changing World	3
SOCI 1740[5]	Making a Living in a Global Era: Sociology of Work	3
SPAN 1730	Intermediate Spanish 1 (p)	5
SPAN 1740	Intermediate Spanish 2 (p)	5
SPCH 1700[1]	Introduction to Speech Communications	3
SPCH 1730[1]	Intercultural Communication	3

Goal 9: Ethic and Civic Responsibility		Credits
BIOL 1780[3]	Contemporary Issues in Human Biology	3
BIOL 1785[3]	Biology of Women	3
HIST 1770[5]	History of Women in the United States	3
PHIL 1720[6]	Ethics	3
POLS 1720[5]	Introduction to American Government	3
POLS 1750[5]	Introduction to Politics	3
PSYC 1720[5]	Psychology Throughout the Lifespan	3
SPCH 1740[5]	Mass Media and Communications	3
SPCH 1745[3]	Mass Media Production Techniques	1
SPCH 1750[1]	Small Group Communication	3

Goal 10: People and the Environment		Credits
ANTH 17205	Physical Anthropology	4
BIOL 1725[3]*	Environmental Science	4
HIST 1750[5]	Minnesota History	3
NSCI 1710[3]	Earth Science	3
NSCI 1720[3]	Physical Geology	3
NSCI 1730[3]	Introduction to Oceanography	3
NSCI 1740[3]	Introduction to Meteorology	3
NSCI 1750[3]	Natural Disasters	3
NSCI 1760[3]	Descriptive Astronomy	3
NSCI 1770[3]	Introduction to Energy & the Environment	3

*Course contains lab

(p) = Indicates course prerequisite

Transfer to Other Institutions

To ensure a smooth transfer from Saint Paul College to a four-year college or university, it is important to understand the types of degrees offered at the College:

The **Associate in Arts (AA)** degree is designed for transfer and offers flexibility in terms of the variety of colleges to which a student can transfer and in the variety of majors that can be can chosen. The AA degree requires mostly general education courses (40 credits), which is what gives it more transferability. The AA degree consists of the Minnesota Transfer Curriculum (MnTC). Completion of the MnTC meets the general education requirements at any of the public Minnesota State Colleges and Universities institutions and the University of Minnesota. Several private colleges also honor the AA degree. Some four-year majors require specific general education courses referred to as pre-major requirements. **Note:** Course requirements may vary depending on the major and transfer college, so it is important to talk to the Transfer Specialists at Saint Paul College and at the transfer college. Refer to the *General Transfer Table*.

For students who are undecided about their major and who are interested in a four-year degree, the AA is a good program to follow until deciding.

The **Associate in Science (AS) degree** is intended to prepare students for immediate employment; however, students can transfer to complete a Bachelor's degree when they transfer to colleges *with whom Saint Paul College has articulation agreements*. The AS degree requires 30 credits of general education (MnTC) courses. Additional general education courses may be required to complete a Bachelor's degree, particularly if students transfer to a college where an articulation agreement does not exist. Refer to the *Transfer Articulation Agreements Table*.

The **Associate in Applied Science (AAS)** degree is intended mainly to prepare students for direct employment. Students who are following an AAS degree and who are interested in transfer are strongly advised to talk to a Saint Paul College Transfer Specialist advisor as transfer options are more limited. The AAS degree requires 20 credits of general education (MnTC) courses. Additional general education courses typically would be required to complete a Bachelor's degree for students who transfer, particularly to colleges with whom articulation agreements do not exist. Refer to the *Transfer Articulation Agreements Table*.

Understanding Transfer of Credits

The receiving college or university decides which credits transfer and if those credits meet its degree requirements; however; a course that meets a Minnesota Transfer Curriculum (MnTC) goal at Saint Paul College will meet the same goal at a Minnesota State Colleges and Universities institution. **Note:** A course can meet a Minnesota Transfer Goal at the sending institution and yet may or may not be considered equivalent to a course at the receiving institution. The accreditation of both the sending and receiving institution can affect the transfer of credits earned, but it is not the only factor in determining transfer of credits.

Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content and level: "like" transfers to "like." The name of a course is not sufficient to determine equivalency. Not everything that transfers counts toward graduation. Bachelors degree programs usually count credits in three categories: general education, major/minor courses and prerequisites/electives. The key question is, "Will your credits fulfill requirements of the degree or program you choose?"

A change in career goal or major might make it difficult to complete all degree requirements within the usual number of graduation credits.

Colleges and universities differ in how they accept courses and other types of college credits (CLEP, AP, international credits, etc.).

Since requirements and acceptance of Saint Paul College credits differ from one college to another, it is important to talk to a Saint Paul College Transfer Specialist, consult college catalogs and Web sites and talk to advisors at the four-year institution. Transfer Specialists and other transfer resources are available in the Transfer Center. Transfer guides to four-year institutions may be available to provide guidance in selecting the courses intended to transfer from Saint Paul College. Also access the Saint Paul College Web site (www.saintpaul.edu) or the Minnesota Transfer Web site (www.mntransfer.org) for more information.

Obtain the following materials and information from the four-year institution:

- College catalog

- Transfer brochure, if available

- Information about admissions criteria and materials required for admission (e.g., transcripts, test scores, portfolio, etc.) Note that some majors have limited enrollments and/or special admission requirements such as higher grade point averages.

- Information on financial aid (how to apply and by what date).

Note: Minnesota State Colleges and Universities and the University of Minnesota have high school preparation requirements for admission. Consult an advisor at your intended transfer school for more information.

After reviewing this information, contact the Transfer Center or someone in the division or program of interest. Be sure to ask about course transfer and admissions criteria.

Applying for Transfer Admission

Application for admission is the first step in transferring. Fill out the application early prior to the deadline and enclose the application fee.

Request official transcripts be sent from all attended institutions. The student is also required to provide a high school transcript or GED test scores.

Make certain the college or university has been supplied with all the necessary paperwork. Most colleges make no decisions until all required documents are filed.

If nothing has been heard from the intended college of transfer after one month, call to check on application status.

After receiving notification of acceptance, transcripted credits will be evaluated for transfer. A written evaluation should explain which courses transfer and which do not. How courses specifically meet degree requirements may not be decided until orientation or selection of a major.

Call the credit evaluator in the Office of Enrollment Services with questions or to find out why judgments were made about specific courses. Each student has the right to an appeal. See *Your Rights As a Transfer Student*.

Your Rights as a Transfer Student

Students are entitled to:

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

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

- A copy of the formal appeals process.

- A review of eligibility for financial aid or scholarships.

Steps in the Appeals Process:

1. The student fills out an appeals form. Supplemental information provided to reviewers can include: a syllabus, course description, or reading list, depending upon the type of appeal.

2. A review by the appropriate department or committee will be conducted.

3. The decision is conveyed in writing to the student.

4. The student may appeal the decision.

For help with transfer questions or concerns, contact the Transfer Center or your advisor at the transfer college.

Transfer Articulation Agreements

Saint Paul College—A Community & Technical College has formed articulation agreements with a number of public and private institutions to assist students following some AS, AAS, diploma or certificate programs with their transfer goals. Please see a Transfer Specialist for further information or see the *Transfer Articulation Agreements Table*.

General Transfer Table 2006-2007

(for students following the Associate in Arts or other general transfer)

The following table summarizes transfer to many colleges and universities. Students who are planning to transfer to other institutions should work with transfer specialists at Saint Paul College and the college to which they are transferring. Certain majors require specialized coursework, so the following provides a guide for general transfer; it is not intended to cover specific requirements for all majors. Admission requirements may vary depending on the major the student is pursuing. Students should consult with the transfer college and use transfer guides to find out admission deadlines and requirements. Note: Students are free to explore transfer to any college, including colleges not listed in the following table.

Transfer guides are available for many of the colleges listed – go to www.saintpaul.edu, click on "students," "planning to transfer," and "transfer guides" listed in the gray box. Transfer guides are also available in the Transfer Center.

Saint Paul College		Degree/Major Offered	Transfer Institution
AA/MnTC	-	Various Majors	All Minnesota State Colleges and Universities
AA/AS	BA	Psychology	Argosy University
AA/MnTC	-	Various Majors	Augsburg College
Selected Liberal Arts Courses	-	Various Majors	Bethel University
AA/AS	BS	Business or Information Technology	Capella University
Selected Liberal Arts Courses	-	Various Majors	College of St. Catherine
AA/MnTC	-	Various Majors	College of St. Scholastica
AA/MnTC	-	Various Majors	Concordia University
Selected Liberal Arts Courses	-	Various Majors	Hamline University
Selected Liberal Arts Courses	-	Various Majors	Macalester College
Selected Liberal Arts Courses	-	Various Majors	Northwestern College
AA/MnTC	-	Various Majors	Saint Mary's University, Mpls
AA/MnTC	-	Various Majors	University of Minnesota
AA/MnTC	-	Various Majors	University of North Dakota
Selected Liberal Arts Courses	-	Various Majors	University of Wisconsin-River Falls
AA/MnTC	-	Various Majors	University of Wisconsin - Stout
Selected Liberal Arts Courses	-	Various Majors	University of St. Thomas

Transfer Articulation Agreements Table 2006-2007

(for students following specified AS, AAS, diploma or certificate programs)

Saint Paul College has formed articulation agreements with a number of public and private institutions to assist students with their transfer goals. These agreements facilitate credit transfer and provide a smooth transition from one related program to another. Please see a transfer specialist for additional information. Additional general education credits will likely be required to complete a degree. The number of credits that transfer may vary depending on the program. Note: Students are free to explore transfer to any college, including colleges not listed in the following table; however, the number of credits that transfer may be more limited.

Accountant AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Industrial Management	University of Wisconsin - Stout
Accountant AAS, Diploma	BS	Various Majors	Saint Mary's University - Minneapolis
Administrative Assistant AAS	BS	Industrial Management	University of Wisconsin - Stout
Administrative Assistant AAS, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Administrative Management AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Business	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Auto Body Repair Diploma	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Automotive Service Tech. Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Technology	University of Wisconsin - Stout
Business Logistic Mgmt AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Business	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Business Logistic Mgmt Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Business Management AS	BA	Business Management and Various Programs	Bethel University (College of Adult and Professional Studies)
	BS	Busn. Or Info Tech	Capella University
	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Business	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Cabinetmaking Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout

Cabinetry, Framed Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Cabinetry, Frameless Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Carpentry Diploma	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Child Development AS, AAS	BAS	Early Childhood Studies	Metropolitan State University
	BA	Psychology	Metropolitan State University
	BS	Industrial Management	University of Wisconsin - Stout
Child Development AS, AAS, Diploma, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Computer Courses (designated courses)	BA	Computer Info Systems	Metropolitan State University
	BS	Computer Science	Metropolitan State University
Computer Network Engineering AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Industrial Management	University of Wisconsin - Stout
Computer Network Engineering AAS, Diploma	BS	Industrial Technology	Moorhead State University
Computer Network Engineering Specialist AS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Business or Info Tech	Capella University
	BS	Industrial Management	University of Wisconsin - Stout
Computer Network Engineering Specialist AS, AAS, Diploma, Advanced Certificates	BS	Various Majors	Saint Mary's University - Minneapolis
Computer Programmer AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Industrial Management	University of Wisconsin - Stout
Computer Programming Specialist AS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Business or Info Tech	Capella University
	BA	Comp Sci./Info Syst.	College of St. Scholastica
	BS	Industrial Management	University of Wisconsin - Stout
Computer Programming Specialist AS, AAS, Diploma	BS	Various Majors	Saint Mary's University - Minneapolis
Computer Programming AAS, Diploma	BS	Industrial Technology	Moorhead State University
Computer Science AS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BA	Comp Sci./Info Systems	College of St. Scholastica
	BS	Computer Science	Metropolitan State University
	BS	Information Technology	Saint Mary's University-Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Construction Electricity Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Cosmetology AAS, Diploma	BS	Various Majors	Saint Mary's University - Minneapolis
Cosmetology AAS	BS	Industrial Technology	University of Wisconsin - Stout
Culinary Arts AAS	BAS	Food Svcs./Culinary Arts	Metropolitan State University
	BS	Hospitality, Restaurant, & Tourism Management	University of Wisconsin - Stout
	BS	Industrial Management	University of Wisconsin - Stout
Culinary Arts AAS, Diploma, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Domestic Appliance, Refrigeration Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Electronic Publishing Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Electronic Technology AAS, Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Energy Process Technician AAS, Adv. Technical Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Energy Process Technician AAS	BS	Industrial Management	University of Wisconsin - Stout
Esthetician AAS, Diploma, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Esthetician AAS	BS	Industrial Management	University of Wisconsin - Stout
Floor Covering Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Geomatics & Mapping Science AS	BS	Land Surveying/Mapping Science	St. Cloud State University
	BS	Busn or Info Tech	Capella University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Graphic Design Diploma, Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Graphic Design Diploma	BS	Industrial Technology	Moorhead State University
Health Unit Coordinator Diploma	BA	First College (Individualized Program)	Metropolitan State University
Health Unit Coordinator Diploma, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Human Resource Spec. AS	BS	Human Resources Management and Various Other Programs	Bethel University (College of Adult and Professional Studies)
	BS	Busn. Or Info. Tech.	Capella University
Human Resource Spec. AS, AAS	BS	Human Resource Mgmt.	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury

Program	Degree	Major	Institution
International Trade Spec. AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BAS	International Commerce	Metropolitan University
	BS	Industrial Management	University of Wisconsin - Stout
International Trade Spec. AAS, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Machine Operator Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Machine Tool Tech: (Precision Machining, Tool and Die Moldmaking Diplomas) Tool & Die Moldmaking Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Major Appliance Repair Diploma	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	St. Mary's University-Minneapolis
Management Info Systems AS	BS	Information Technology	Saint Mary's University - Minneapolis
	BS	Various Busn. Degrees	Cardinal Stritch university
	BA	Comp. Sci./ Info Syst.	College of St. Scholastica
	BS	Industrial Management	University of Wisconsin - Stout
Manufacturing Technology AAS	BA	Industrial Technology	Bemidji State University
	BMM	Manufacturing Management	University of Minnesota-Crookston
	BS	Industrial Technology	Moorhead State University
	BS	Industrial Management	University of Wisconsin - Stout
	BS	Various Majors	Saint Mary's University - Minneapolis
Massage Therapy Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Medical Office Professional AAS	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Medical Coding, Records, Receptionist, Transcriptionist Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Medical Laboratory Tech AAS (selected coursework)	BS	Clinical Lab Science	University of North Dakota
Medical Laboratory Tech AAS	BA	First College (Individualized Program)	Metropolitan State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BAS	Clinical Lab Science	University of Minnesota (College of Continuing Education)
	BS	Industrial Management	University of Wisconsin - Stout
Micro Mechanical Tech Diploma	BS	Industrial Management	University of Wisconsin - Stout
Microcomputer Support Tech AAS, Diploma	BS	Industrial Technology	Moorhead State University
Microcomputer Support Tech AAS	BS	Various Busn. Degrees	Cardinal Stritch University - Woodbury
	BS	Industrial Management	University of Wisconsin - Stout
Microcomputer Support Tech AAS Diploma, Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Micro Mechanical Tech Diploma	BS	Industrial Management	University of Wisconsin - Stout
Nail Care Technician Diploma	BS	Various Majors	Saint Mary's University - Minneapolis
Pipefitting Diploma	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Plumbing Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Management	University of Wisconsin - Stout
Practical Nursing Diploma	BS	Various Majors	Saint Mary's University - Minneapolis
	AS	Nursing	Minnesota State Colleges & Universities
Respiratory Therapist/Care AAS	BS	Industrial Management	University of Wisconsin - Stout
	BA	First College (Individualized Program)	Metropolitan State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Sheet Metal Diploma	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Sign Language Interpreter AAS	BA	Psychology	Metropolitan State University
	BS	Industrial Management	University of Wisconsin - Stout
Sign language Interpreter AAS Certificate/ASL Certificate	BA	First College (Individualized Program)	Metropolitan State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Software Support Spec./ Help Desk Certificate	BS	Various Majors	Saint Mary's University - Minneapolis
Truck Technician Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Visualization Technology AAS	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Watch, Clock & Jewelry Repair Diploma, Certificates	BS	Various Majors	Saint Mary's University - Minneapolis
Web Designer Adv. Tech Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Welding Fabrication Diploma	BA	Industrial Technology	Bemidji State University
	BS	Industrial Technology	Moorhead State University
	BS	Various Majors	Saint Mary's University - Minneapolis
	BS	Industrial Management	University of Wisconsin - Stout
Welding Metal Fabrication Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis
Welding Certificate	BA	Industrial Technology	Bemidji State University
	BS	Various Majors	Saint Mary's University - Minneapolis

Programs

Opportunities.

Business & Computer Programs

Programs

Business & Computer
Programs

Programs

Accounting

Accountant AAS Degree . . . . 72 Credits
Accounting Technician Diploma . . . . 40 Credits

Program Overview

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

The Accounting Technician monitors and controls various types of electronic data processing equipment used to process accounting data. Applications would include automated general ledger and other accounting subsystems, spreadsheet applications, database management and the use of graphics. The Accounting Technician may also assist in the planning and implementation of automated accounting systems.

Students must have a high school diploma or an equivalency certificate. Excellent reading skills and a combination of interest and ability to concentrate on detail, an analytical mind, good judgment and absolute integrity are necessary for success in the field of accounting.

Career Opportunities

With more and more emphasis being placed on computer usage for accounting careers, opportunities for employment in this field are excellent. Rate of advancement may be swift and the rewards generous.

The Accounting profession offers a vast arena of employment potential. Typical places of employment include accounting departments in governmental agencies, financial institutions, private business and industry and public accounting firms. Other job titles may be tax accountant, cost accountant, staff accountant, government accountant, auditor, junior accountant or comptroller. The financial accounting technician positions are found in the areas of public accounting, private accounting, non-profit accounting, auditing, taxation, cost accounting and managerial positions.

Program Outcomes

1. Graduates of the Accounting Program will be prepared for a career in the accounting profession.

2. Graduates will be proficient in computer software and its application to financial accounting, taxation and financial analysis.

3. Graduates will have knowledge of financial accounting theory and financial statement analysis.

4. Graduates will have completed general education requirements for employment and personal roles.

5. Graduates will serve their employers and clients in all phases of accounting, including cost accounting, tax, estates and trusts and non-profit accounting.

Accountant AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ACCT 1412	Principles of Accounting 2	4
ACCT 1511	Federal Taxation 1	4
ACCT 1512	Federal Taxation 2	4
ACCT 1521	Accounting Computer Applications 1	4
ACCT 1522	Accounting Computer Applications 2	4
ACCT 2411	Intermediate Accounting 1	4
ACCT 2412	Intermediate Accounting 2	4
ACCT 2420	Managerial Accounting 1	4
ACCT 2510	Managerial Accounting 2	4
ACCT 2520	Auditing	4
ACCT 2530	Fundamentals of Non-Profit Accounting	4
ACCT 2540	Spreadsheet Math Formulas/Functions	4
	Subtotal	**52**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

	Cr
Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science, & Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Accounting Technician Diploma

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ACCT 1412	Principles of Accounting 2	4
ACCT 1511	Federal Taxation 1	4
ACCT 1512	Federal Taxation 2	4
ACCT 1521	Accounting Computer Applications 1	4
ACCT 1522	Accounting Computer Applications 2	4
ACCT 2420	Managerial Accounting 1	4
ACCT 2540	Spreadsheet Math Formulas/Functions	4
ADMS 1421	Intro to Microsoft Office Software	4
COMM 1480	Job Seeking Resources	1
COMM	Communication course (Choose a COMM or SPCH course, 1000 level or higher, or ENGL 1711 or higher)	3
	Total Program Requirements	**40**

Administrative Office Careers

Administrative Management AAS Degree . . . . 62 Credits
Administrative Assistant AAS Degree. . . . . . . 65 Credits
Administrative Assistant Certificate . . . . 30 Credits
Software Support Specialist/
      Help Desk Certificate . . . . 28 Credits

Administrative Management

Program Overview

Effective use of people, technology, systems, equipment and space are the keys to competent office management. Students graduating from this program are prepared to manage functions in the office environment. Administrative Management is recommended for experienced office staff (those wishing to increase their potential for promotion) as well as entry-level office workers. Graduates will have expert office skills and in-depth software knowledge.

Career Opportunities

The opportunities for employment in the administrative management area are unlimited depending on the individual's strengths and interests. According to the Education Testing Service, employment for managers is expected to grow at an average pace despite mergers and takeovers. The jobs that are expected to grow the fastest are with service and professional firms. Earnings vary with size of company, location, industry, function, responsibilities, education, experience and ability.

Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related office support areas.

2. Graduates will be experienced in office protocol via internships and/or capstone courses.

3. Graduates will have successfully mastered the general education program requirements for work and life roles.

4. Graduates will be proficient in the use of office management skills and software applications.

Program Prerequisites

Course		Cr
	Keyboarding 45wpm & Formatting Skills **OR**	
ADMS 1410	Document Formatting	3
	Knowledge of Computers **OR**	
ADMS 1418	Computer Fundamentals for Beginners	3

Administrative Management AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ADMS 1421	Introduction to Microsoft Office Software	4
ADMS 1423	Advanced Microsoft Office Software	4
ADMS 1445	Business Communications	3
ADMS 1530	Communication Technology	4
ADMS 2410	Administrative Office Procedures	4
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
BUSN 2470	Legal Environment of Business	3
COMM 1480	Job Seeking Resources	1
	Subtotal	**36**
	Electives: (with Advisor approval)	**6**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**62**

AAS Degree General Education Requirements*   **20 Credits**

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural

Communication – 3 cr **OR**
SPCH 1750 Small Group
Communication – 3 cr

Students are required to complete the following from Goal 3 & Goal 4	4
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning MATH 1740 Intro to Statistics – 4 cr	

Students are required to complete the following from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences ECON 1720 Macroeconomics – 3 cr **OR** ECON 1730 Microeconomics – 3 cr	

Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	

Select a minimum of 3 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	3

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Administrative Assistant

Program Overview

The Administrative Assistant works in an office support position that may utilize a wide range of systems and software applications: database, spreadsheet, graphics, PowerPoint and integrated software applications. Other applications may include networks and telecommunications. Assistants may provide support for office systems end-users and assist with training, problem solving, troubleshooting and implementation (help desk).

Assistants should have excellent office support skills; technical skills in a variety of software applications; knowledge of current and emerging technologies; the ability to work independently or in workgroups under pressure and within deadlines; flexibility in coping with interruptions and system/software problems.

Career Opportunities

Opportunities are excellent for skilled, capable, and dependable graduates.

Graduates may be employed in a variety of office support positions that require advanced technical training: administrative assistant, help desk, office coordinator.

Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related office support areas.

2. Graduates will be experienced in office protocol via internships and capstone courses.

3. Graduates will have successfully mastered the general education program requirements for work and life roles.

4. Graduates will be proficient in the use of office software applications.

Administrative Assistant AAS Degree

Program Prerequisites

Course		Cr
ADMS 1400	Keyboarding Skills **OR** Microcomputer Keyboarding	2
ADMS 1418	Knowledge of Computers **OR** Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ADMS 1410	Document Formatting	3
ADMS 1421	Introduction to Microsoft Office Software	4
ADMS 1423	Advanced Microsoft Office Software	4
ADMS 1425	Expert Level Microsoft Office Software	4
ADMS 1430	Computer 10-Key	2
ADMS 1435	Business Proofreading & Editing	3
ADMS 1445	Business Communications	3
ADMS 1530	Communication Technology	4
ADMS 2410	Administrative Office Procedures	4
ADMS 2550	Intro to Help Desk/Customer Service	4
COMM 1480	Job Seeking Resources	1
COMM 1485	Employment Portfolio Development and Presentation	2
	Electives: Choose 3 credits of appropriate courses with advisor approval from any Business Career Program: Administrative Support, Business, Computer Careers, Accounting, Human Resources and International Trade.	3
	Subtotal	**45**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**65**

AAS Degree General Education Requirements*   **20 Credits**

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR**	

SPCH 1750 Small Group
Communication – 3 cr

Students are required to complete the following from Goal 3 & Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List
  for specific course options.

Administrative Assistant Certificate

Program Prerequisites

Course		Cr
	Keyboarding Skills **OR**	
ADMS 1400	Microcomputer Keyboarding	2
	Knowledge of Computers **OR**	
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1410	Document Formatting	3
ADMS 1421	Introduction to Microsoft Office Software	4
ADMS 1430	Computer 10-Key	2
ADMS 1435	Business Proofreading & Editing	3
ADMS 1530	Communication Technology	4
ADMS 2410	Administrative Office Procedures	4
COMM 1460	Applied Interpersonal Communication	3
COMM 1480	Job Seeking Resources	1
	Subtotal	**24**
	Technical Electives	**6**
	Electives: Choose 6 credits of appropriate courses with advisor approval from any Business Career Program: Administrative Support, Business, Computer Careers, Accounting, Human Resources and International Trade.	
	Total Program Requirements	**30**

Software Support Specialist/ Help Desk

Program Overview

Software Support Specialist/Help Desk support personnel utilize a wide range of systems and software applications: electronic mail, Web browser, word processing, spreadsheets, database management, graphics, planning and scheduling, desktop publishing and Web page development. Support personnel work with communication technology such as instant messaging, voice mail, cell phones, voice recognition and various multimedia features.

Software Support Specialist/Help Desk personnel will have excellent technical software support skills. Professionals in this field enjoy working with computer equipment and software, show a strong interest in emerging technology and a willingness to work as part of a team.

Students in this program cover content in preparation for the Expert level Microsoft Office Specialist (MOS) certification exams.

Career Opportunities

Employment opportunities will continue to grow in the technical software support area. The Software Support Specialist/Help Desk program is designed to provide students with expert level Microsoft Office software skills. Graduates will possess the necessary skills to be employed in a variety of business support positions. These positions include: Administrative Assistants, Executive Assistants, Virtual Coordinators, Help Desk Support, Software User Support, Office Systems Specialist, College Lab Assistant-Computer Applications, Project Assistants, Office Coordinators and Desktop Publishing Specialists.

The skills acquired in the Software Support Specialist/Help Desk program also provide an excellent opportunity for advancement or enhancement within an organization.

Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related professional software support areas.

2. Graduates will have successfully mastered the general education program requirements for work and life roles.

3. Graduates will be prepared for the Microsoft Office Specialist (MOS) certification in Word, Excel, Access and PowerPoint.

Software Support Specialist/ Help Desk Certificate

(Courses in this program are also available online)

Program Prerequisites

Course		Cr
	Keyboarding Skills **OR**	
ADMS 1400	Microcomputer Keyboarding	2
	Knowledge of Computers **OR**	
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1421	Introduction to Microsoft Office Software	4
ADMS 1423	Advanced Microsoft Office Software	4
ADMS 1425	Expert Level Microsoft Office Software	4
ADMS 2506	Basic Web Design/MS FrontPage	3
ADMS 2507	MS Outlook E-Mail and Calendaring	3
ADMS 2508	Desktop Publishing	3
ADMS 2550	Introduction to Help Desk/ Customer Service	4
	Subtotal	**25**
	General Education Requirement	**3**
	Total Program Requirements	**28**

Students may complete courses in the Software Support Specialist/Help Desk Certificate online. To be successful in an online course, students must have easy access to the Internet, ability to work independently, be self-disciplined and self-motivated and have good time management skills.

Business Logistics Management

Business Logistics Management AAS Degree . 64 Credits
Business Logistics Management
        Advanced Technical Certificate . . . . 19 Credits

Program Overview

Logistics management is concerned with the movement, storage and processing of materials and information across the whole of the supply chain, from acquisition of raw materials and components, through manufacturing, to delivery of finished products to end users.

This program provides students the opportunity of understanding modern supply chain management. Supply Chain management demands a multidisciplinary and cross-functional approach to business which transcends the traditional functional boundaries and management disciplines that characterize many organizations.

Career Opportunities

Business Logistics Management offers a wide variety of employment opportunities. Some of these are purchasing and supplier management, manufacturing logistics, inventory management, transport management, distribution, warehousing management, customer service management, information management and logistics and supply chain strategy. Because of the wide range of jobs open to graduates, prospective students are asked to consult with the program instructor for specific job forecasts.

Program Outcomes

1. Graduates will have knowledge and skills in distribution planning, transportation management and logistics.

2. Graduates will have knowledge and skills in customer service.

3. Graduates will be prepared for positions in transportation, distribution and supply chain management.

4. Graduates will have knowledge and skills to provide foresight of potential opportunities in the business logistics marketplace.

Business Logistics Management AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ADMS 1421	Intro to Microsoft Office Software	4
BSLM 1410	Transportation Management	3
BSLM 1510	Distribution Management	3
BSLM 2420	Supply Chain Management	4
BSLM 2450	Purchasing Principles and Applications	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
COMM 1480	Job Seeking Resources	1
INTL 1400	Introduction to International Trade	3
INTL 1510	Export Shipping and Documentation	4
INTL 2420	US Customs and Importing	3
	Subtotal	**41**
	Electives: Choose 3 credits of electives with advisor approval from any International Trade courses, Accounting, Business Management, Computers, or Internship.	**3**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**64**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1		7
	Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4		3
	Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	

Select a minimum of 3 credits from Goal 5		3
	Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6		3
	Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.		4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Business Logistics Management Advanced Technical Certificate*

Program Requirements

Course		Cr
BSLM 1410	Transportation Management	3
BSLM 1510	Distribution Management	3
BSLM 2420	Supply Chain Management	4
BSLM 2450	Purchasing Principles and Applications	3
BUSN 1440	Marketing Principles	3
BUSN 2472	Business Negotiation Skills	3
	Total Program Requirements	**19**

* In order to be admitted to the Business Logistics program, the student must have related work experience or a business degree (minimum – AAS).

Business Management

Business Management AS Degree . . . . 63 Credits
Supervision Certificate. . . . . 12 Credits
Project Management: Business & Information
        Systems Certificate. . . . . 15 credits

Business Management

Program Overview

The Business Management AS degree prepares students for general management responsibilities. Students learn about the functions of business, including accounting, management, marketing and human resources. Students study a broad background of business and liberal arts subjects that prepare them for entry-level positions in business. They may also continue their education in business towards a bachelor's degree at four-year institutions. Some bachelor's degree majors include Management, Marketing, Accounting, Human Resources and International Business.

Career Opportunities

Employment opportunities are very good for skilled, capable and dependable business professionals. Employers are looking for business professionals with excellent communication skills, organizational skills, human relations skills and enthusiasm for the job and organization. Graduates may choose to continue their education towards a bachelor's degree or begin work in a variety of settings. Graduates can explore opportunities that match their interests and education in a variety of industries.

Program Outcomes

1. Graduates will have the skills, knowledge and abilities, in core business functions including accounting, marketing and management.

2. Graduates will have a basic understanding of the laws that impact the business environment.

3. Graduates will be prepared for entry-level employment in business.

4. Graduates will have successfully mastered the general education requirements for work and life roles.

Business Management AS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ACCT 1412	Principles of Accounting 2	4
	Select:	
ADMS 1421	Introduction to MS Office Software OR	4
CSCI 2410	Management Information Systems	4
ADMS 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
BUSN 2470	Legal Environment of Business	3
	Electives (with Advisor Approval)	6
	Subtotal	**33**
	General Education Requirements (Select at least 30 credits of General Education according to the requirements listed below)	**30**
	Total Program Requirements	**63**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
    ENGL 1711 Composition 1 – 4 cr
    SPCH 1700 Introduction to Speech Communications – 3 cr OR
    SPCH 1710 Fundamentals of Public Speaking – 3 cr OR
    SPCH 1720 Interpersonal Communication – 3 cr OR
    SPCH 1730 Intercultural Communication – 3 cr OR
    SPCH 1750 Small Group Communication – 3 cr	

Students are required to complete the following from Goal 4   **4**

    Goal 4: Mathematical/Logical Reasoning
        MATH 1740 Intro to Statistics – 4 cr

Students are required to complete the following from Goal 5   **4**

    Goal 5: History, Social Science and
    Behavioral Sciences
    ECON 1720 Macroeconomics – 3 cr
    Additional course to meet Goal 5 requirements

Select a minimum of 3 credits from Goal 6   **3**

    Goal 6: Humanities and Fine Arts

Select a minimum of 12 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   **12**

    Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

Recommended: SPCH 1710 Fundamentals of Public Speaking, MATH 1730 College Algebra, ECON 1730 Microeconomics

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Recommended Electives for Business Management AS Degree

Course		Cr
ACCT 1521	Accounting Computer Applications 1	4
ACCT 2420	Managerial Accounting 1	4
ACCT 2510	Managerial Accounting 2	4
BUSN 2455	Essentials of Entrepreneurship & Small Business Management	3
BUSN 2465	Business Ethics	3
BUSN 2480	Business Management Internship	3
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
HMRS 1400	Introduction to Human Resources	3
HMRS 1550	Strategies for Business Solutions	3
HMRS 2410	Employee/Labor Relations	3
INTL 1400	Introduction to International Trade	3
INTL 1410	International Communication and Cultural Awareness	3
	Other Courses with Advisor approval	

Supervision Certificate

Course		Cr
BUSN 1410	Introduction to Business	3
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
HMRS 2410	Employee/ Labor Relations	3
	Total Program Requirements	**12**

Project Management: Business & Information Systems Certificate

Course		Cr
CSCI 2410	Management Information Systems	4
CSCI 2430	Information Systems Project Management	4

BUSN 2475	Business Decisions and Project Management	4
	Elective Course	**3**
	Total Program Requirements	**15**

Electives	Select one from below	
BSLM 2450	Purchasing Principles and Applications	3
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
HMRS 1400	Introduction to Human Resources	3
HMRS 2520	Training and Development	3

Computer Graphics Careers

Computer Graphics AS Degree. . . . . 64 Credits
Visualization Technology AAS Degree . . . . 62 Credits
Web Design Certificate . . . . 18 Credits

Program Overview

This program prepares students for jobs in the exciting computer graphics field. Students will learn how to take an idea from concept through production including computer graphics, computer animation, sound and video.

Computer Graphics Specialists can work in a wide variety of creative jobs including web design, film and animation production, CD ROM production and any organization that can benefit from these special talents. With more and more animation moving to the desktop, the computer graphics specialist is becoming a high demand career.

The student should be creative and have excellent communication skills. Students should exhibit qualities of patience and precision and should enjoy working both independently and on team projects.

Career Opportunities

The computer graphics field relates to many jobs in the multimedia area including but not limited to:

• Web Designer

• Computer Animator

• Computer Game Designer and Developer

• Multimedia Developer

Program Outcomes

1. Graduates will have knowledge and skills in computer logic and programming.

2. Graduates will have knowledge and skills in web design.

3. Graduates will have knowledge and skills in computer animation.

4. Graduates will have knowledge and skills in digital sound and video production.

5. Graduates will have knowledge and skills in digital photography.

6. Graduates of this program may choose to continue their education at a four-year institution in Computer Graphics or a related field.

Computer Graphics AS Degree

Program Requirements

Course		Cr
CIST 2570	Digital Photography 1	2
CIST 2572	3D Studio Max 1	2
CIST 2573	3D Studio Max 2	2
CIST 2586	Digital Sound	2
CIST 2587	Digital Video Production	2
CSCI 1410	Computer Science & Information Systems	4
CSCI 1443	Dreamweaver 1	2
CSCI 1448	Adobe/Macromedia Flash 1	2
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1521	Structure of Computer Programming 1	4
CSCI 2600	Computer Graphics 1	4
CSCI 2601	Computer Graphics 2	4
	Subtotal	**34**
	General Education Requirements	**30**
	(Select at least 30 credits of General Education according to the Requirements listed below)	
	Total Program Requirements	**64**

AS Degree General Education Requirements*　　　　30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1　　7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 4　　3

Goal 4: MATH 1730 College Algebra

Select a minimum of 4 credits from Goal 5　　4

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6　　3

Goal 6: Humanities and Fine Arts
ARTS 1710 Fundamentals of Photography 1 – 3 cr
Highly recommended

Select a minimum of 10 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum　　10

* Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Visualization Technology AAS Degree

Program Requirements

Course		Cr
CIST 2570	Digital Photography 1	2
CIST 2571	Digital Photography 2	2
CSCI 1443	Dreamweaver 1	2
CSCI 1444	Dreamweaver 2	2
CSCI 1448	Adobe/Macromedia Flash 1	2
CSCI 1449	Adobe/Macromedia Flash 2	2
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1470	Web Design	4
CSCI 2440	Internet Programming 1 – Client Side	4
	Technical Electives	**16**
	Subtotal	**40**
	General Education Requirements	**22**
	(Select at least 22 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**62**

Select Technical Electives from the following:

CIST 2572	3-D Studio Max 1	2
CIST 2573	3-D Studio Max 2	2
CIST 2591	CIST Internship	2-8
CSCI 1410	Computer Science/Info Systems	4
CSCI 1420	Intro to Operating Systems	4
CSCI 1440	Networking Fundamentals	4
CSCI 2442	Internet Program 2 – Server Side	4
CSCI 2463	XML Programming	4
CSCI 2600	Computer Graphics 1	4
CSCI 2601	Computer Graphics 2	4
Other CIST/CSCI courses with Advisor approval		

AAS Degree General Education Requirements *　　　22 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1　　7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4　　3

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

Programs

	Select a minimum of 3 credits from Goal 5	3
	Goal 5: History, Social Science and Behavioral Sciences	
	Select a minimum of 9 credits from Goal 6	9
	Goal 6: Art	
	ARTS 1710 Fundamentals of Photography 1 – 3 cr	
	ARTS 1711 Fundamentals of Photography 2 – 3 cr	
	ARTS 1730 Drawing 1 – 3 cr	
	ARTS 1731 Drawing 2 – 3 cr	
	ARTS 1740 Introduction to Painting – 3 cr	
	Other ART courses with approval of Advisor	

* Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Web Design Certificate

Program Requirements

Course		Cr
CIST 2570	Digital Photography 1	2
CSCI 1443	Dreamweaver 1	2
CSCI 1449	Adobe/Macromedia Flash 1	2
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1470	Web Design	4
CSCI 2440	Internet Programming 1 – Client Side	4
	Total Program Requirements	**18**

Computer - Management Information Systems

Management Information Systems
AS Degree . . . . 64 Credits

Program Overview

The Associate in Science Degree in Management Information Systems is designed to provide the students with opportunities for immediate employment or for transfer to four-year institutions with whom Saint Paul College has articulation agreements. The College has developed articulation agreements with four-year institutions to assist students with their transfer goals. See a Transfer Specialist for further information.

Students planning a career in this area should have above average mathematical reasoning and communication skills. Students should exhibit qualities of patience, perseverance and preciseness and should enjoy working in a team environment.

Career Opportunities

A management information system degree prepares the student for a career that combines business techniques and computer systems capability. Students study how to provide business transactions, reporting and analysis using best practices in information technology.

Graduates will find opportunities in the information systems field in business, manufacturing, government and education. With additional education and experience, students may advance to positions such as Systems Analyst, Software Architect and Business Analyst. Graduates of this program may choose to continue their education at a four-year institution in a Management Information Systems or related field. Others may elect to enter the workforce following graduation.

Program Outcomes

1. Graduates will be able to analyze complex business processes and develop process improvements and comprehensive information system requirements specifications to support them.

2. Graduates will be able to help build and test information systems in an organization.

3. Graduates will be able to utilize accounting and business systems information to develop recommendations for operating cost reduction and improved use of capital investment.

4. Graduates will have a sound understanding of business systems, current technologies, organizational structures, communication tools and critical thinking skills to help guide Management Information Systems success.

Management Information Systems AS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
CSCI 1410	Computer Science & Info Systems	4
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1521	Structure of Computer Programming 1	4
CSCI 1550	Database Management Fundamentals	4
CSCI 1560	Object Oriented Analysis & Design – UML	4
CSCI 2410	Management Information Systems	4
	Subtotal	**34**
	General Education Requirements (Select at least 30 credits of General Education according to the requirements listed below)	**30**
	Total Program Requirements	**64**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Students are required to complete the following from Goal 4   7-9

> Goal 4: Mathematical/Logical Reasoning
> MATH 1740 Intro to Statistics – 4 cr
> MATH 1730 College Algebra – 3 cr OR
> MATH 2751 Calculus 1 – 5 cr

Students are required to complete the following from Goal 5   6

> Goal 5: History, Social Science and Behavioral Sciences
> ECON 1720 Macroeconomics – 3 cr
> ECON 1730 Microeconomics – 3 cr

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts
>
> General Education Electives   5-7
>
> Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Project Management: Business & Information Systems Certificate
(located in Business Management Section)

Computer Network Careers

Computer Network Engineering Specialist
    AS Degree . . . . 62 Credits
Computer Network Engineering
    AAS Degree . . . . 60 Credits
Linux Systems Administration Certificate . . . . . 16 Credits
Microsoft Network Administration Certificate . 16 Credits

Program Overview

Networking Specialists can work in a wide variety of jobs. The work could include purchasing, installing, configuring, administrating and/or supporting. Some jobs in networking could include help desk support, user training, installing and maintaining local and/or wide area networks.

The student should have excellent communications and math skills. For the certificate programs the student is expected to have prior microcomputer and/or networking experience. He/she should exhibit qualities of patience, perseverance and preciseness and be a logical thinker. The student should enjoy working in a team environment and be able to work independently. All networking programs emphasize preparation for either the Microsoft Certified System Administration or Linux Professional Institute (LPI) Certification.

Career Opportunities

With almost every size company connected to some type of network, the jobs in networking have become the fastest growing in the computer field. With companies networking to share resources and reduce expenses the networking specialist is an invaluable part of the new company structure. There is a wide variety of jobs in networking including installation, maintenance, training, managing and user support.

Graduates find excellent opportunities as Network Administrators, Network Support and Certified Network Engineers in business, manufacturing, government and education. Jobs for Networking Specialists in all types of installations are found throughout the country with opportunities for excellent earnings and rapid advancement. Jobs include the following:

- Networking Engineer
- Network Administrator
- Network Help Desk Support
- LAN Specialist
- Datacommunications Specialist
- Telecommunications Specialist
- PC Network Administrator
- Information Specialist
- Certified Network Engineer
- LAN Manager
- WAN Manager

Program Outcomes

1. Graduates will have knowledge and skills in computer network engineering.

2. Graduates will have knowledge and experience in system design, analysis and maintenance.

3. Graduates of the computer Network Programs will be prepared for employment as computer network engineers.

4. Graduates will be prepared to take industry certification exams.

Computer Network Engineering Specialist AS Degree

Program Requirements

Course		Cr
CIST 1423	Windows Client Configuration	4
CIST 2451	Microsoft Server 1	4
CIST 2452	Microsoft Server 2	4
CIST 2460	Linux Fundamentals	4
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1440	Networking Fundamentals	4
CSCI 1521	Structure of Computer Programming 1	4
	Subtotal	**32**
	General Education Requirements (Select at least 30 credits of General Education according to the requirements listed below)	**30**
	Total Program Requirements	**62**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Students are required to complete Math 1730 and 1740
Select a minimum of 7 credits from Goal 3 or Goal 4   7

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

MATH 1730 College Algebra		3
MATH 1740 Intro to Statistics		4

Select a minimum of 4 credits from Goal 5   4

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

Goal 6: Humanities and Fine Arts

Select a minimum of 9 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   9

Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Computer Network Engineering AAS Degree

Program Requirements

Course		Cr
CIST 1423	Windows Client Configuration	4
CIST 2460	Linux Fundamentals	4
CIST 2475	A+ Hardware/Operating System Prep	4
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1440	Networking Fundamentals	4
CSCI 2430	Information Systems Project Management	4
	Technical Electives	**4**
	Subtotal	**32**
	Linux or Microsoft Emphasis (Select one of the emphases listed below)	**12**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**64**

	Linux Systems Admin. Emphasis	
CIST 2464	Linux Administration	4
CIST 2466	Linux Networking	4
CIST 2469	Advanced Linux Topics	4

	Microsoft Emphasis	
CIST 2451	Microsoft Server 1	4
CIST 2452	Microsoft Server 2	4
CIST 2477	Microsoft Server Security	4

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.   4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Linux Systems Administration Certificate

Program Prerequisites

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1440	Networking Fundamentals	4

Program Requirements

Course		Cr
CIST 2460	Linux Fundamentals	4
CIST 2464	Linux Administration	4
CIST 2466	Linux Networking	4
CIST 2469	Advanced Linux Topics	4
	Total Program Requirements	**16**

Microsoft Network Administration Certificate

Program Prerequisites

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1440	Networking Fundamentals	4

Program Requirements

Course		Cr
CIST 1423	Windows Client Configuration	4
CIST 2451	Microsoft Server 1	4
CIST 2452	Microsoft Server 2	4
CIST 2477	Microsoft Server Security	4
	Total Program Requirements	**16**

Computer Programming

Computer Programming Specialist
    AS Degree . . . . 62 Credits
Computer Programmer AAS Degree . . . . 64 Credits
C++/Java Programmer Certificate. . . . . 16 Credits
J2EE Application Development Certificate . . . 16 Credits
Oracle Database Certificate . . . . 16 Credits
Web Developer Certificate . . . . 16 Credits

Program Overview

The job of the applications programmer is to (1) review job specifications provided by the system analyst and end user and (2) plan, code, test and document a programming solution which takes the available data input and produces the desired output in the form of a printed report or a screen display. The programming language(s) used depends on the nature of the problem and the languages available to the programmer at his/her installation.

The student should have above average communications and math skills. He/she should exhibit qualities of patience, perseverance and preciseness and should enjoy working in a team environment and also be able to work independently. All programs emphasize training for industry certification.

Career Opportunities

Graduates find excellent opportunities as computer programmers in business, manufacturing, government and education. Jobs for computer programmers for all types of computer systems are found throughout the country with opportunities for good earning and rapid advancement. Jobs include: Programmer, Database Project Specialist, Applications Programmer, Technical Programmer, Systems Analyst, MIS Coordinator, Software Developer, Junior Programmer-Analyst, and Senior Programmer-Analyst.

Program Outcomes

1. Graduates will be able to design and code production software applications.

2. Graduates will be able to analyze complex organizational problems and create design specifications to address these problems.

3. Graduates will be able to use industry standard database management systems to support their applications.

4. Graduates of the degree programs will have mastered the general education requirements for work and life roles.

5. Graduates will be prepared to take certification exams in their area of specialization.

Computer Programming Specialist AS Degree

Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1450	Web Fundamentals	4
CSCI 1521	Structure of Computer Programming 1	4
CSCI 1522	Structure of Computer Programming 2	4
CSCI 1531	C/C++ Programming 1	4
CSCI 1550	Database Management Fundamentals	4
CSCI 1560	Object Oriented Analysis & Design – UML	4
	Subtotal	**32**
	General Education Requirements	**30**
	(Select at least 30 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**62**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 — 7

Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 4 credits from Goal 5	4
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 13 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	13
Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.	6

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Computer Programmer AAS Degree

Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1420	Introduction to Operating Systems	4
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1521	Structure of Computer Programming 1	4
CSCI 1522	Structure of Computer Programming 2	4
CSCI 1550	Database Management Fundamentals	4
CSCI 1560	Object Oriented Analysis & Design – UML	4
	Subtotal	**28**
	Technical Electives	**16**
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**64**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 — 7

Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

C++/Java Programmer Certificate

This program is designed for individuals who have computer programming knowledge or are currently employed in the computer programming field.

Program Requirements

Course		Cr
CSCI 1531	C/C++ Programming 1	4
CSCI 1541	Java Programming 1	4
CSCI 1542	Java PRogramming 2	4
Students should select 1 of the following courses		
CSCI 1532	C/C++ Programming 2	4
CSCI 2466	J2EE JSP Servlets	4
CSCI 2467	J2EE Application Development	4
	Total Program Requirements	**16**

J2EE Application Development Certificate

This program is designed for individuals who have computer programming knowledge or are currently employed in the computer programming field.

Program Requirements

Course		Cr
CSCI 1541	Java Programming 1	4
CSCI 1542	Java Programming 2	4

Students should select any 2 of the following courses

Course		Cr
CSCI 1560	OOAD with UML	4
CSCI 2450	Adv OOAD with UML & Rational RUP	4
CSCI 2463	XML Programming	4
CSCI 2466	J2EE JSP Servlets	4
CSCI 2467	J2EE Application Development	4
	Total Program Requirements	16

Oracle Database Certificate

This program is designed for individuals who have computer programming knowledge or are currently employed in the computer programming field.

Program Requirements

Course		Cr
CSCI 1550	Database Management Fundamentals	4
CSCI 1551	Introduction to Oracle	4
Students should select any 2 of the following courses		
CSCI 1552	Oracle Database Development	4
CSCI 1554	Oracle Database Administration	4
CSCI 1568	PHP and MySQL Programming	4
	Total Program Requirements	16

Web Developer Certificate

This program is designed for individuals who have computer programming knowledge or are currently employed in the computer programming field.

Program Requirements

Course		Cr
CSCI 2440	Internet Programming 1 – Client Side	4
CSCI 2442	Internet Programming 2 – Server Side	4
CSCI 2463	XML Programming	4
Students should select 1 of the following courses		
CSCI 1440	Networking Fundamentals	4
CSCI 1470	Web Design	4
CSCI 1541	Java Programming 1	4
CSCI 1568	PHP and MySQL Programming	4
	Total Program Requirements	16

Computer Science

Computer Science AS Degree. . . . . 62 Credits

Program Overview

The Associate in Science Degree in Computer Science is designed to provide students with opportunities for immediate employment or for transfer to four-year institutions with whom Saint Paul College has articulation agreements. The College has developed articulation agreements with four-year institutions to assist students with transfer goals. See a Transfer Specialist for further information.

Students planning a career in this area should have above average mathematical reasoning and communication skills. Students should exhibit qualities of patience and preciseness and should enjoy working in a team environment.

Career Opportunities

Graduates of this program may choose to continue their education at a four-year institution in a Computer Science or related field. Others may elect to enter the workforce following graduation. Graduates will find opportunities in the computer science field in the areas of programming or database management in business, manufacturing, government and education. With additional education and experience, students may advance to positions such as Database Analyst, Systems Analyst, Software Developer or Programmer-Analyst.

Program Outcomes (Computer Science)

1. Graduates will be able to develop complex algorithms which underlie common programming tasks.

2. Graduates will be able to construct and analyze the performance of complex data structures and use them to develop efficient computer programs.

3. Graduates will have a sound understanding of the mathematics that underlies Computer Science and be able to develop and deploy computer programs which utilize it.

4. Graduates of the program will have mastered the general education requirements for work and life roles.

Computer Science AS Degree

Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1521	Structure of Computer Programming 1	4
CSCI 1522	Structure of Computer Programming 2	4
CSCI 1531	C/C++ Programming 1	4
CSCI 1541	Java Programming 1	4
	Select two courses (8 credits) from the following:	
CSCI 2460	Discrete Structures of Computer Science	4
CSCI 2570	Machine Architecture and Organization	4
CSCI 2580	Introduction to Numerical Computing	4
	Subtotal	28
	General Education Requirements (Select at least 34 credits of General Education according to the requirements listed below)	34
	Total Program Requirements	62

AS Degree General Education Requirements* **34 Credits**

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 **7**

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Students are required to complete the following from Goal 3 & Goal 4 **20**

> Goal 3: Natural Sciences
> PHYS 2700 General Physics 1 – 5cr
> PHYS 2710 General Physics 2 – 5 cr
>
> Goal 4: Mathematical/Logical Reasoning
> MATH 2751 Calculus 1 – 5 cr
> MATH 2752 Calculus 2 – 5 cr

Select a minimum of 4 credits from Goal 5 **4**

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6 **3**

> Goal 6: Humanities and Fine Arts

Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Entrepreneurship

Entrepreneurship AAS Degree. . . . . 63 credits
Entrepreneurship Certificate . . . . 30 credits

Program Overview

This degree prepares enterprising individuals to become responsible entrepreneurs. Students will learn how to start and maintain a business that will add economic and cultural value within a community. Students will develop a plan for a business that addresses financial, marketing and operational aspects.

Career Opportunities

Employment opportunities are excellent for skilled, capable, and dependable entrepreneurs. Opportunities are available for starting a new business, enhancing a currently owned business, or working within another small business environment.

Program Outcomes

1. Graduates will have the skills, knowledge, and abilities in core business functions including accounting, marketing, and management.

2. Graduates will have an understanding of how to start an entrepreneurship/small business operation.

3. Graduates will be prepared to manage and enhance an entrepreneurship/small business operation.

4. Graduates will have successfully mastered the general education required for work and life roles.

Entrepreneurship AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ADMS 1421	Introduction to Microsoft Office OR	4
CSCI 2410	Management Information Systems	
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
BUSN 2455	Entrepreneurship & Small Business Mgmt.	3
BUSN 2460	Entrepreneurship Resources	2
BUSN 2470	Legal Environment of Business	3
BUSN 2472	Business Negotiation Skills	3
HMRS 1410	Recruitment & Hiring Process	3
HMRS 2410	Employee/Labor Relations	3
Subtotal		**34**

Electives: Choose 9 credits of technical electives approved by program advisor. Technical electives can include core courses from other program areas (i.e. culinary arts, cosmetology, auto mechanics, etc.) or, more business courses. **9**

General Education Requirements **20**

(Select at least 20 credits of General Education according to the requirements listed below)

Total Program Requirements **63**

AS Degree General Education Requirements* **20 Credits**

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1 **7**

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Intro to Speech – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

	Select a minimum of 3 credits from Goal 3 or Goal 4	3
	Goal 3: Natural Sciences	
	Goal 4: Mathematical/Logical Reasoning	
	Select a minimum of 3 credits from Goal 5	3
	Goal 5: History, Social Science, and Behavioral Sciences	
	Select a minimum of 3 credits from Goal 6	3
	Goal 6: Humanities and Fine Arts	
	Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Entrepreneurship Certificate

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2455	Entrepreneurship & Small Business Mgmt.	3
BUSN 2460	Entrepreneurship Resources	2
BUSN 2470	Legal Environment of Business	3
BUSN 2472	Business Negotiation Skills	3
HMRS 1410	Recruitment & Hiring Process	3
HMRS 2410	Employee/Labor Relations	3
	General Education	**3**
	Total Program Requirements	**30**

Hospitality Management

Hospitality Management AAS Degree . . . . 66 Credits
Food Service Management Certificate . . . . 18 Credits
Hotel Marketing and Sales Certificate . . . . 17 Credits

Program Overview

The Hospitality Management curriculum focuses on management aspects of today's exciting hospitality industry. Students will receive a solid foundation in the nation's number one industry-the service industry. Courses include understanding of tourism, lodging, food and marketing and sales. This program emphasizes the methods used to control and manage the hospitality business.

Program Outcomes

1. Graduates will understand broad hospitality and food service concepts.

2. Graduates will have knowledge of the travel and tourism industry and the operation of hospitality services.

3. Graduates will understand the key principles in the lodging industry.

4. Graduates will develop strong customer service skills and practices.

5. Graduates will demonstrate strong communications, problem-solving and human relations skills.

Career Opportunities

Hospitality Management offers students a wide variety of employment opportunities. Some of these include managing hotel/motel operation; supply purchasing, storage and control, hotel and recreational facilities design and planning, facilities management, travel and tourism management, food service management, convention and event management, and front desk operations. Because of the wide range of jobs open to graduates, prospective students are asked to consult with the program advisor for specific job forecasts.

Hospitality Management AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ACCT 1412	Principles of Accounting 2	4
ADMS 1421	Introduction to MS Office	4
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
BUSN 2470	Legal Environment of Business	3
HSPM 1410	Introduction to Hospitality Management	3
HSPM 1420	Introduction to Tourism	3
HSPM 2420	Lodging Systems	3
HSPM 2440	Hospitality Marketing & Sales	3
HSPM 2591	Hospitality Management Internship	5
CULA 1540	Food Service Supervisory Management	2
CULA 1560	Food, Beverage & Labor Cost Control	3
	Subtotal	**46**
	General Education Requirements	**20**
	Total Program Requirements	**66**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Intro to Speech – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences	
Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science, and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

*Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Food Service Management Certificate

Program Requirements

Course		Cr
HSPM 1410	Introduction to Hospitality Management	3
BUSN 2450	Management Fundamentals	3
CULA 1540	Food Service Supervisory Management	2
CULA 1560	Food, Beverage & Labor Cost Control	3
CULA 1470	Food Service Sanitation	2
HSPM 2591	Hospitality Management Internship	5
	Total Program Requirements	**18**

Hotel Marketing and Sales Certificate

Program Requirements

Course		Cr
HSPM 1410	Introduction to Hospitality Management	3
HSPM 2440	Hospitality Marketing & Sales	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
HSPM 2591	Hospitality Management Internship	5
	Total Program Requirements	**17**

Human Resources

Human Resources AS Degree . . . . 63 Credits
Human Resources AAS Degree. . . . . 63 Credits
Human Resources Certificate . . . . 30 Credits
Human Resources Professional Certificate . . . . 15 Credits

Program Overview

The human resource professional, in any organization, plays a strategic role in the success of the organization. A human resource professional needs to be competent in human resource knowledge, able to facilitate change, have personal credibility which includes trust and

confidentiality and the understanding of how a business operates. Specific duties may involve facilitating employee communication, managing human resource record keeping, administering employee compensation and benefit plans, recruiting, hiring and orienting new employees, writing policies and applying federal, state and local employment laws and regulations.

Qualifications include excellent communication and human relation skills, computer skills, flexibility and the ability to work under pressure.

Career Opportunities

Employment opportunities are excellent for skilled, capable and dependable Human Resource program graduates.

Human Resource program graduates may be employed in positions such as: Human Resource Representative, Human Resource Coordinator, HR Assistant, Human Resource Specialist, Human Resource Generalist, Compensation or Benefits Specialist, Staffing Coordinator, Employment Specialist, Payroll Specialist, or Training and Development Assistant. Typical salaries for entry-level positions range from $28,000–$32,000 and for mid-level positions from $35,000–$45,000.

Program Outcomes

1. Graduates will have the skills, knowledge and abilities in core human resource functions (i.e., HRIS, Record Keeping, Compensation/Benefits Admin and staffing procedures).

2. Graduates will have the skills, knowledge and abilities to identify and deal with employee relation issues and to communicate effectively in a work environment.

3. Graduates will have the skills, knowledge and abilities in applicable federal, state and local employment regulations and a working knowledge of basic employment laws.

4. Graduates will be prepared for employment in the field of human resources (in a variety of positions).

5. Graduates will have successfully mastered the general education requirements for work and life roles.

The Human Resource Certification Institute has recognized Saint Paul College as an approved provider of educational courses for re-certification of the PHR or SPHR certification

Human Resources AS Degree

The Human Resources Associate in Science Degree is designed specifically for transfer to a four-year

baccalaureate degree and is articulated with specific four-year institutions. Contact your advisor for additional information.

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
BUSN 1410	Introduction to Business	3
COMM 1480	Job Seeking Resources	1
HMRS 1400	Introduction to Human Resources	3
HMRS 1410	Recruitment & Hiring Process	3
HMRS 1510	HR Information Systems & Records	3
HMRS 1520	Compensation & Benefits Administration	3
HMRS 1550	Strategies for Business Solutions	3
HMRS 2410	Employee/Labor Relations	3
HMRS 2420	Employment Law & HR Policies	3
HMRS 2520	Training & Development	3
HMRS 2530	Human Resource Portfolio Competency Evaluation	1
	Subtotal	**33**
	General Education Requirements	**30**
	(Select at least 30 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**63**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 4 credits from Goal 5   4

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 13 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   13

> Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Human Resources AAS Degree

The Human Resources Associate in Applied Science Degree is intended for students who desire immediate employment upon graduation, or who plan to transfer to another institution of higher education.

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
BUSN 1410	Introduction to Business	3
COMM 1480	Job Seeking Resources	1
HMRS 1400	Introduction to Human Resources	3
HMRS 1410	Recruitment & Hiring Process	3
HMRS 1510	HR Information Systems & Records	3
HMRS 1520	Compensation & Benefits Administration	3
HMRS 1550	Strategies for Business Solutions	3
HMRS 2410	Employee/Labor Relations	3
HMRS 2420	Employment Law & HR Policies	3
HMRS 2520	Training & Development	3
HMRS 2530	Human Resource Portfolio Competency Evaluation	1
HMRS 2591	Human Resource Internship	3
	Subtotal	**36**
	Electives	**7**
	(Select 7 credits of appropriate courses with advisor approval from any Business Career program: Administrative Support, Business Management, Computer Careers, Accounting, Human Resources and International Trade)	
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**63**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science and Behavioral Sciences

	Select a minimum of 3 credits from Goal 6	3
	Goal 6: Humanities and Fine Arts	
	Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Human Resources Certificate

This program is designed for an individual who desires to enter the Human Resources field with a general grounding in Human Resources and within a short period of time. This program has two emphases. The first, HR Specialist emphasis, is for an individual who has a background in computer and office skills. The second, HR Technician emphasis, is for an individual who seeks to gain, or improve computer skills that will enable them to enter the job market. The certificate program is transferable to either the AAS or AS program.

Program Requirements

Course		Cr
COMM	Communication course (Choose a COMM or SPCH course, 1000 level or higher, or ENGL 1711 or higher)	3
COMM 1480	Job Seeking Resources	1
HMRS 1400	Introduction to Human Resources	3
HMRS 1510	HR Information Systems and Records	3
HMRS 1520	Compensation and Benefits Administration	3
HMRS 2410	Employee/Labor Relations	3
HMRS 2420	Employment Law & HR Policies	3
HMRS 2530	HR Portfolio Competency Evaluation	1
	Subtotal	**20**
	Select ONE of the emphases listed below	**10**
	Total Program Requirements	**30**
	HR Specialist Emphasis	
BUSN 1410	Introduction to Business	3
HMRS 1410	Recruitment & Hiring Process	3
HMRS 2520	Training & Development	3
ADMS XXXX	ADMS Computer Elective	1
	Subtotal	**10**
	HR Technician Emphasis	
ADMS 1421	Intro to Microsoft Office Software	4
ADMS XXXX	ADMS Computer Elective(s)	3
HMRS XXXX	HMRS Elective	3
	Subtotal	**10**

Human Resources Professional Certificate

Program Overview

This program is designed for an individual who is working in the HR field, has management experience, or a prior degree (AAS or higher). It is not for entry level individuals, but is designed to enhance and build on prior knowledge.

Program Requirements

Course		Cr
HMRS 1400	Introduction to Human Resources	3
HMRS 1410	Recruitment and the Hiring Process	3
HMRS 1510	HR Information Systems and Records	3
HMRS 1520	Compensation and Benefits Administration	3
HMRS 2420	Employment Law and HR Policies	3
	Total Program Requirements	**15**

International Trade

International Trade Specialist AAS Degree . . . . 66 Credits
International Trade Professional
     Certificate . . . . 16 Credits

Program Overview

Applicants are required to have a high school diploma or equivalent. The international trade area is especially suited for persons who are self reliant, imaginative, adaptable and who possess an interest in working with people from other cultures.

Career Opportunities

More than four million people in the United States work in jobs related to international trade. In Minnesota, many businesses engage in international trade, with a dramatic increase in trade activity expected within five years.

A career in International Trade offers you the opportunity to work in the international marketplace. The International Trade Specialist Program will provide you with knowledge and skills which will prepare you for employment in the export and import departments of businesses. You will be working with people from foreign countries, handling foreign orders, filling overseas orders, packaging orders, labeling to suit overseas markets, handling customer matters and determining tariff rates for the entry of foreign goods through U.S. Customs. Job titles include: International Sales/Marketing Assistant, International Marketing Communication Coordinator, International Documentation Specialist, International Customer Service Coordinator, Export-Import Coordinator, International Banker and International Transportation

Coordinator. We also provide classes in U.S. Customs and Importing, which are preparatory courses for taking the United States Custom Broker examination.

This program also provides an excellent foundation for individuals wanting to be entrepreneurs in the import/export business. The import/export field is growing! You can grow with it.

Program Outcomes

1. Graduates will have knowledge and skills in domestic and international transportation management and logistics.

2. Graduates will have knowledge of U.S. Custom regulations and classifications.

3. Graduates will demonstrate the ability to successfully perform as International Trade Specialist via Internships.

4. Graduates will be prepared for employment as International Trade Specialists.

5. Graduates will have knowledge and skills in customer service.

International Trade Professional Certificate

Program Overview

This certificate program is designed for an individual who is currently working in the International Trade/Logistics field, or has a prior degree. It is not for entry level to the international trade field, but is designed as an add-on certificate to enhance and build on prior knowledge.

Program Requirements

Course		Cr
INTL 1410	International Communications and Cultural Awareness	3
INTL 1510	Export Shipping and Documentation	4
INTL 2420	US Customs and Importing	3
INTL 2510	International Banking and Finance	3
INTL 2530	International Marketing	3
	Total Program Requirements	**16**

International Trade Specialist AAS Degree

Program Requirements

Course		Cr
ACCT 1411	Principles of Accounting 1	4
ADMS 1421	Intro to Microsoft Office Software	4
BSLM 1410	Transportation Management	3
BSLM 1510	Distribution Management	3
BUSN 1440	Marketing Principles	3
COMM 1480	Job Seeking Resources	1
INTL 1400	Introduction to International Trade	3
INTL 1410	International Communications and Cultural Awareness	3
INTL 1510	Export Shipping and Documentation	4
INTL 2410	International Economics	3
INTL 2420	US Customs and Importing	3
INTL 2510	International Banking and Finance	3
INTL 2520	International Business Law	3
INTL 2530	International Marketing	3
	Subtotal	**43**
	Electives	**3**
	(Select 3 credits of appropriate courses with advisor approval)	
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**66**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science, & Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Medical Office and Health Information Technology Careers

Health Information Technology AAS Degree* . 65 Credits
Medical Office Professional AAS Degree . . . . . 62 Credits
Medical Coding Certificate . . . . 30 Credits
Medical Records Clerk Certificate. . . . . 21 Credits
Medical Receptionist Certificate . . . . 26 Credits
Medical Transcriptionist Certificate. . . . . 28 Credits

* Program pending approval

Program Overview

Health Information Technicians play a vital role in the health care industry by participating in the creation, completion, distribution and retention of medical record documentation according to policies and procedures outlined by several regulating bodies such as the Joint Commission on Accreditation of Health Care Facilities and Medicare.

Those individuals enrolled in the program will obtain a broad body of knowledge which will allow them to become employed in many capacities within a health information department. Some of the positions include such tasks as: release of information, various registries, incomplete chart room, processing of medical documentation, coding and abstracting, and may include supervisory or leadership roles based on skill and ability. Students who successfully complete the Health Information Technology degree are allowed to sit for the national examination given by the American Health Information Management Association to become a Registered Health Information Technician upon successful completion of the examination.

Career Opportunities

Graduates of the Health Information Technology degree will find positions in various health care settings such as private physician offices, clinics, specialty clinics, hospitals, long-term care facilities, and rehabilitation facilities. Employment can also be found in government offices, the insurance industry, dental and chiropractic clinics, and information technology suppliers.

Student Outcomes

1. Graduates will apply policies and procedures to assure the accuracy of health information.

2. Graduates will use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, and quality improvement.

3. Graduates will apply procedure codes using ICD-9-CM and CPT/HCPCS.

4. Graduates will apply policies and procedures to comply with the changing regulations among various payment systems for healthcare services.

5. Graduates will possess a knowledge base which will allow them to find employment in the health care industry.

6. Graduates will be prepared to sit for the certification examination given by the American Health Information Management Association to become a Registered Health Information Technician.

Health Information Technology AAS Degree

Program Prerequisite

Course	Cr
Knowledge of Computers OR ADMS 1418 Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1421	Introduction to Microsoft Office Software	4
COMM 1480	Job Seeking Resources	1
MEDS 1420	Health Information Foundations	3
MEDS 1470	Anatomy & Physiology/Medical Office	3
MEDS 1480	Medical Terminology	3
MEDS 1560	Computerized Health Information	3
MEDS 1562	Billing and Reimbursement	2
MEDS 1570	Human Disease	3
MEDS 2430	Pharmacology for HIT	2
MEDS 2432	Alternative Health Record Systems	2
MEDS 2434	Legal Aspects of Health Information	2
MEDS 2440	Supervision of Health Information	2
MEDS 2460	ICD-9-CM Coding	3
MEDS 2470	CPT-4 Coding	3
MEDS 2480	Advanced Coding	3
MEDS 2510	Quality Management and Health Statistics	3
MEDS 2590	HIT Internship	3
	Subtotal	**45**
	General Education	**20**
	Total Program Requirements	**65**

General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr OR SPCH 1710 Fundamentals of Public Speaking – 3 cr OR SPCH 1720 Interpersonal Communication – 3 cr OR SPCH 1730 Intercultural Communication – 3 cr OR SPCH 1750 Small Group Communication – 3 cr	

Select a minimum of 3 credits from Goal 3	3

Goal 3: Natural Sciences
BIOL 1730 Human Body Systems – 3 cr

Select a minimum of 3 credits from Goal 5	4

Goal 5: History, Social Science and
Behavioral Sciences
PSYC 1710 General Psychology – 4 cr

Select a minimum of 3 credits from Goal 6	3

Goal 6: Humanities and Fine Arts

Select a minimum of 3 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	3

* Refer to the Minnesota Transfer Curriculum Course List
for Specific course options.

Program Overview (Medical Office)

Medical Office professionals are critical to the support of clinical staff in the health care industry. Physicians, nurses and other direct patient-contact personnel rely on well-trained medical office professionals to assist them in the creation and retention of quality medical documentation based on patient care. The medical office professional's job may include transcribing medical documents, creating and processing correspondence, coding of diagnoses and procedures, scheduling patient appointments, pulling and filing of medical records, releasing of information, collecting or abstracting medical data, understanding reimbursement methodologies, meeting physician documentation needs, as well as other related duties.

High school graduation or equivalent is required. Applicants should possess excellent communication skills, meticulous attention to detail, good spelling, finger dexterity and extreme accuracy in their work. Candidates considering this field should be comfortable reading and analyzing data for long periods of time, listening to dictated material for an extended period, assisting the public with concerns and being given a directive to complete.

Career Opportunities

Medical Office Professionals enjoy salaries in the top bracket of office professionals. Some may advance to office supervisors or managers with further education; and some may develop their own business based on their medical office specialty, such as transcription or coding. The Medical Office Professional may work in a clinic, physician's office, surgery center, specialty clinic, hospital, insurance company, government agency, research foundation, long-term care facility, dental office, consulting firm, rehabilitation center or other health care facility.

Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment as a Medical Office Professional.

2. Graduates will have successfully mastered the general education requirements for work and life roles.

3. Graduates will be proficient in the use of basic computer software applications.

4. Graduates will possess a complete understanding of the language of medicine or medical terminology.

Medical Office Professional AAS Degree

Program Prerequisites

Course		Cr
	Microcomputer keyboarding skill of 30 wpm + 5 or fewer errors **OR**	
ADMS 1400	Microcomputer Keyboarding Knowledge of Computers **OR**	2
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1410	Document Formatting	3
ADMS 1421	Intro to Microsoft Office Software	4
ADMS 1423	Advanced MS Office	4
ADMS 1430	Computer 10 Key	2
ADMS 1435	Business Proofreading and Editing	3
MEDS 1420	Health Information Foundations	3
MEDS 1470	Anatomy/Physiology/Medical Office	3
MEDS 1480	Medical Terminology	3
MEDS 1551	Medical Formatting/Transcription 1	3
MEDS 1552	Medical Transcription 2	3
MEDS 1570	Human Disease	3
MEDS 2420	Medical Office Procedures	4
	Subtotal	**38**
	Electives	**4**
	(Select 4 credits of electives from any Business career program with advisor approval)	
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**62**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech
Communications – 3 cr **OR**
SPCH 1710 Fundamentals of
Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal
Communication – 3 cr **OR**
SPCH 1730 Intercultural
Communication – 3 cr **OR**
SPCH 1750 Small Group
Communication – 3 cr

	Select a minimum of 3 credits from Goal 3 or Goal 4	3
	Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
	Select a minimum of 3 credits from Goal 5	3
	Goal 5: History, Social Science and Behavioral Sciences	
	Select a minimum of 3 credits from Goal 6	3
	Goal 6: Humanities and Fine Arts	
	Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Medical Coding Certificate

Program Prerequisites

Course		Cr
	Microcomputer Keyboarding skill of 30 wpm & 5 or fewer errors OR	
ADMS 1400	Microcomputer Keyboarding	2
	Knowledge of Computers OR	
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1430	Computer 10 Key	2
COMM 1460	Applied Interpersonal Communications OR	3
SPCH 1720	Interpersonal Communications	3
MEDS 1420	Health Information Foundations	3
MEDS 1470	Anatomy/Physiology/Medical Office	3
MEDS 1480	Medical Terminology	3
MEDS 1570	Human Disease	3
MEDS 2420	Medical Office Procedures	4
MEDS 2460	ICD-9-CM Coding	3
MEDS 2470	CPT-4 Coding	3
MEDS 2480	Advanced Coding	3
	Total Program Requirements	**30**

Medical Records Clerk Certificate

Program Prerequisites

Course		Cr
	Computer Knowledge OR	
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
ADMS 1400	Microcomputer Keyboarding*	2
ADMS 1430	Computer 10-Key	2
ADMS 1530	Communication Technology	4
COMM 1460	Applied Interpersonal Communications OR	3
SPCH 1720	Interpersonal Communications	3
MEDS 1420	Health Information Foundations	3
MEDS 1480	Medical Terminology	3

MEDS 2420	Medical Office Procedures	4
	Total Program Requirements	**21**

*Substitution course with advisor approval

Medical Receptionist Certificate

Program Prerequisites

Course		Cr
	Microcomputer Keyboarding of 25 wpm & 5 or fewer errors OR	
ADMS 1400	Microcomputer Keyboarding	2
	Knowledge of Computers OR	
ADMS 1418	Computer Fundamentals for Beginners	3
	Basic communication skills OR	
ADMS 1435	Business Proofreading & Editing	3

Program Requirements

Course		Cr
ADMS 1421	Intro to Microsoft Office Software	4
ADMS 1430	Computer 10 Key	2
ADMS 1530	Communication Technology	4
COMM 1460	Applied Interpersonal Communications OR	3
SPCH 1720	Interpersonal Communications	3
MEDS 1420	Health Information Foundations	3
MEDS 1470	Anatomy/Physiology/Medical Office	3
MEDS 1480	Medical Terminology	3
MEDS 2420	Medical Office Procedures	4
	Total Program Requirements	**26**

Medical Transcriptionist Certificate

Program Prerequisites

Course		Cr
	Microcomputer keyboarding skill of 30 wpm + 5 or fewer errors OR	
ADMS 1400	Microcomputer Keyboarding - 30 wpm	2
	Basic communication skills OR	
ADMS 1435	Business Proofreading & Editing	3
	Computer Knowledge OR	
ADMS 1418	Computer Fundamentals for Beginners	3

Program Requirements

Course		Cr
COMM 1460	Applied Interpersonal Communications OR	
SPCH 1720	Interpersonal Communications	3
MEDS 1420	Health Information Foundations	3
MEDS 1470	Anatomy/Physiology/Medical Office	3
MEDS 1480	Medical Terminology	3
MEDS 1551	Medical Formatting/Transcription 1	3
MEDS 1552	Medical Transcription 2	3
MEDS 1553	Medical Transcription 3	3
MEDS 1570	Human Disease	3
MEDS 2420	Medical Office Procedures	4
	Total Program Requirements	**28**

Programs

ASL - Interpreting Programs

Programs

American Sign Language Studies

American Sign Language Studies
    Certificate. . . . . 29 Credits

Program Overview

The American Sign Language Studies Certificate Program provides students with the knowledge and skills of American Sign Language (ASL); focusing on the uniqueness of ASL as a language, Deaf Culture and Deaf History. The program encourages students to become involved in the social and cultural activities of the Deaf Community. The curriculum provides a solid and basic foundation for entry into a career in a deafness-related field and prepares students for continued educational studies in a variety of disciplines. It is a pathway to entering the Sign Language Interpreter/Transliterator Program at Saint Paul College or similar programs at other institutions. Individuals who intend to or currently work with Deaf and/or Hard-of-Hearing individuals in fields such as education, human/social services, community service agencies, and vocational rehabilitation benefit from the opportunity to learn and develop stronger skills in American Sign Language.

Career Opportunities

Completion of the American Sign Language Studies Certificate:

- Enhances ability to work and communicate more effectively with Deaf and Hard-of-Hearing people in academic, agency, and business settings.

- Provides opportunities to enhance ASL fluency and acquire Deaf Culture knowledge which is applicable to a variety of educational disciplines

- Prepares students to meet the ASL prerequisites for the Sign Language Interpreter/Transliterator Program

- Enhances American Sign Language fluency for potential or current teachers of Deaf and Hard-of-Hearing students.

- Meets general education requirements in some state colleges and universities.

Program Outcomes

1. Graduates will be prepared to meet the ASL prerequisites for the Sign Language Interpreter/Transliterator Program.

2. Graduates will develop ASL skills and Deaf Culture awareness to more effectively communicate with Deaf and Hard-of-Hearing people in a variety of settings.

3. Graduates will meet world language requirements at the high school and college/university level.

4. Graduates will be prepared to take an American Sign Language Proficiency Interview and to meet K-12 Skill Levels.

5. Graduates will meet entrance requirements for undergraduate or graduate programs in ASL Studies, Linguistics, and Deaf Education.

American Sign Language Studies Certificate

Program Requirements

Course		Cr
SPCH 1700, SPCH 1710, SPCH 1720, SPCH 1730 OR SPCH 1750		3
ASLS 1411	American Sign Language 1	3
ASLS 1412	American Sign Language 2	3
ASLS 1413	American Sign Language 3	3
ASLS 1414	American Sign Language 4	3
ASLS 1420	ASL Linguistics	4
ASLS 1430	Classifiers	3
ASLS 1435	Deaf Studies/Culture	3
ASLS 1441	ASL Fingerspelling and Numbers 1	2
	Subtotal	**27**
	Select 2 credits of Technical Electives from the courses listed below	**2**
ASLS 1415	American Sign Language 5	3
ASLS 1442	ASL Fingerspelling and Numbers 2	2
ASLS 1444	ASL Sign Reading	2
ASLS 1446	ASL Non-Manual Markers	2
ASLS 1448	American Sign Language Semantics	2
ASLS 1497	Special Topics: ASL	1-5
	Total Program Requirements	**29**

Optional Courses for American Sign Language Program

(Most courses require prerequisites)

Course		Cr
	Optional Courses:	
ASLS 1455	Contrastive Text Analysis	2
ASLS 1469	Deaf Heritage of Minnesota	2
ASLS 1470	ASL Discourse	2

If a student has received advanced placement into ASLS 1412, ASLS 1413, or ASLS 1414 by an advisor, ASLS electives may be substituted to meet total program requirements.

Programs

Sign Language Interpreter/Transliterator

Sign Language Interpreter/Transliterator
AAS Degree . . . . 72 Credits

Program Overview

This program prepares individuals to work as interpreter/transliterators facilitating and mediating communication between Deaf/Hard of Hearing and hearing people. Interpreters must convey accurate messages, feelings and attitudes of participants, whether those messages are spoken or signed. To accomplish this, above average competency in English and strong American Sign Language skills are necessary. A strong academic background, and traits that demonstrate maturity, responsibility, flexibility, and the ability to work well under pressure, are assets.

The curriculum requires both general education courses as well as courses specifically related to the Deaf Community and interpreting. The program covers a variety of subject areas which include ASL linguistics and language development, interpreting process theory and application, interpreter roles and responsibilities, interpreter's code of ethics, history of deaf people and their culture, and the historical evolvement of the interpreting profession. Interpreting and Transliterating skills courses provide guided practice in developing the skills necessary to effectively interpret/transliterate.

Students will experience a variety of learning environments including classroom work, laboratory practice and field placement. Students will be required to have both in-class and out-of-class experiences with members of the Deaf Community to further develop ASL fluency and cultural awareness.

There is a specific program admission process that is identified in the 2006 ITP Admission document located on the college website. Admission requirements include completing the program prerequisite requirements of American Sign Language 1 (ASLS 1411 or comparable course) and American Sign Language 2 (ASLS 1412 or comparable course) with a grade of C or better; have a 3.0 GPA in American Sign Language 3 (ASLS 1413 or comparable course) and American Sign Language 4 (ASLS 1414 or comparable course). Students who have not had recent ASL courses (within the past 18 months) at date of application will need to refresh their skills by taking an ASL course or pass a sign language assessment to demonstrate current language competency. Above average skills on college assessment tests for reading and writing English are used to determine entry into the program. Refer to the College website for the 2007 ITP program admission requirements.

Career Opportunities

Graduates will be qualified for careers as entry-level sign language interpreters with social service agencies, educational programs, community-based settings, or recreational situations. The employment outlook due to accessibility legislation has dramatically increased the need for interpreters. This need is expected to continue.

Graduates will have opportunities to further their education and to specialize their work through professional affiliations or by obtaining national certification. Graduates who plan to work in K-12 educational settings must hold a Provisional Certificate which allows them to become a practitioner for a maximum of two years or until they obtain national certification.

An articulation agreement with Metropolitan State University allows graduates of this program to be granted credit towards a Bachelor of Arts Degree in Psychology with a focus in Interpreting.

Program Outcomes

1. Graduates will have an understanding and knowledge about the theoretical, ethical and practical foundations of the interpreting field needed to pass the National Registry of Interpreters for the Deaf (RID) Generalists written test.

2. Graduates will have the knowledge and skills of the art and science of interpreting between American Sign Language and English.

3. Graduates will have the knowledge and skills of the art and science of transliterating between spoken English and a signed form of English.

4. Graduates will have the knowledge and skills to function as cross-cultural mediators in order to transmit and transfer culturally based linguistic and non-linguistic information.

5. Graduates will demonstrate the necessary employment knowledge, skills and professional behaviors that are requisite for immediate employment as Sign Language Interpreters/Transliterators.

6. Graduates will sit for national certification within two years of graduation.

Bachelor of Arts Degree

A Bachelor of Arts degree in Psychology, with an emphasis in Sign Language Interpreting, is available through an articulation agreement with Metropolitan State University.

Sign Language Interpreter/Transliterator AAS Degree

Program Prerequisites

Course		Cr
ASLS 1411	American Sign Language 1	3
ASLS 1412	American Sign Language 2	3
ASLS 1413	American Sign Language 3	3
ASLS 1414	American Sign Language 4	3

Program Requirements

Course		Cr
ASLS 1420	ASL Linguistics	4
ASLS 1430	Classifiers	3
ASLS 1435	Deaf Studies/Culture	3
INTP 1440	Orientation to Interpreting	3
INTP 1511	Interpreting Process	3
INTP 1512	Consecutive Interpreting 1	3
INTP 1513	Consecutive Interpreting 2	2
INTP 2411	Sign to Voice Interpreting 1	4
INTP 2412	Sign to Voice Interpreting 2	2
INTP 2421	Voice to Sign Interpreting 1	4
INTP 2422	Voice to Sign Interpreting 2	2
INTP 2431	Transliterating 1	4
INTP 2432	Transliterating 2	2
INTP 2510	Educational Interpreting	2
INTP 2520	Code of Ethics for Interpreters	1
INTP 2550	Community Resources Seminar	1
INTP 2585	Internship Seminar	1
INTP 2591	Interpreter Internship	6
	Select 2 credits of the following electives:	**2**
ASLS 1415	American Sign Language 5	3
ASLS 1441	ASL Fingerspelling and Numbers 1	2
ASLS 1442	ASL Fingerspelling and Numbers 2	2
ASLS 1444	ASL Sign Reading	2
ASLS 1446	ASL Non-Manual Markers	2
ASLS 1448	American Sign Language Semantics	2
ASLS 1455	Contrastive Text Analysis	2
INTP 1465	Special Topics: Interpreting	1-5
	Subtotal	**52**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

	Cr
Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

	Cr
Select a minimum of 3 credits from Goal 3 or Goal 4	3

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

	Cr
Select a minimum of 3 credits from Goal 5	3

Goal 5: History, Social Science and Behavioral Sciences

	Cr
Select a minimum of 3 credits from Goal 6	3

Goal 6: Humanities and Fine Arts

	Cr
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List.

Optional Courses for Interpreter/Transliterator Programs

(Most courses require prerequisites)

Course		Cr
	Optional Courses:	
ASLS 1469	Deaf Heritage of Minnesota	2
ASLS 1470	ASL Discourse	2
INTP 1465	Special Topics: Interpreting	1-5
INTP 2450	Deaf/Blind Interpreting	2

Health and Service Programs

Programs

Child Development Careers

Child Development Careers Certificate . . . . . . 17 Credits
Child Development Careers Diploma . . . . 35 Credits
Child Development Careers AAS Degree. . . . . 66 Credits
Child Development Careers AS Degree . . . . . . 64 Credits
Child Care Administration
      Advanced Technical Certificate. . . . . . . 10 Credits

Program Overview

This program is designed to prepare individuals for employment in a variety of early childhood settings. Courses were designed in collaboration with the other Minnesota Technical and Community Colleges. This program offers a certificate, diploma, AAS and an AS Degree. All coursework meets Minnesota Department of Human Services educational requirements for early childhood teachers and assistant teachers. Throughout the program, students will learn about child development, guidance, professional relationships, nutrition, health and safety, cultural sensitivity and techniques for promoting learning in young children. Each level provides either lab, internship, or practicum opportunities which allow students to apply their skills and knowledge in a practical experience.

Students must have a high school diploma, or GED and pass a criminal background check. Respect for cultural differences is essential. Good judgment and absolute integrity are also necessary for success in the field of child development.

Career Opportunities

The field of Child Development Careers offers many opportunities for employment as more and more parents seek quality care and educational programs for their children. There is currently such a high demand for trained child development professionals, that our job placement rate is well over 95%. The Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2010.

Graduates of the Child Development Certificate Program will qualify to work as an assistant teacher in a child care setting or preschool program, a family child care provider, or nanny.

Graduates of the Child Development Diploma Program will qualify to work at any of the previous occupations (at a higher pay rate) as well as a lead teacher in a child care setting or preschool program, an assistant teacher in a Head Start program, or child care resource and referral counselor.

Graduates of the Child Development AAS or AS Program will qualify to work at any of the previous occupations (at a higher pay rate) as well as a Lead Teacher in a Head Start program, a teacher assistant or education assistant in the public schools, Early Childhood Special Education, Early Childhood Family Education, Child Life Assistant (working with children in a hospital setting).

The Child Development Administration Advanced Technical Certificate is for current child care center directors and assistant directors who seek advanced certification.

Program Outcomes

1. Graduates will demonstrate knowledge of child safety, health and nutrition.

2. Graduates will demonstrate knowledge in the fundamental principles of child development and developmentally appropriate practices.

3. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.

4. Graduates will have the knowledge and will demonstrate skills in family, community, and staff relations.

5. Graduates will have hands-on training in a variety of Child Development settings.

6. Graduates will possess the knowledge and skills for immediate employment in the Child Development field.

7. Graduates will have successfully mastered the general education program requirements for work and life roles.

Child Development Careers Certificate

Program Requirements

Course		Cr
CHDV 1200	Professional Relations in Early Childhood Careers	3
CHDV 1210	Foundations of Child Development	3
CHDV 1220	Child Safety, Health & Nutrition	4
CHDV 1230	Guidance: Managing the Physical/Social Environments	4
SOCI 17NN	Sociology Course (any)	3
	Total Program Requirements	**17**

Child Development Careers Diploma

Program Requirements

Course		Cr
CHDV 1200	Professional Relations in Early Childhood Careers	3
CHDV 1210	Foundations of Child Development	3
CHDV 1220	Child Safety, Health & Nutrition	4
CHDV 1230	Guidance: Managing the Physical/Social Environments	4
CHDV 1340	Planning & Implementing Curriculum	3
CHDV 1910	Internship 1	4
ENGL 1711	English Composition 1	4
SOCI 17NN	Sociology course	3
	Subtotal	**28**
	Choose 1 of the 4 courses listed below:	**4**
CHDV 1310	Infant & Toddler Dev. & Learning OR	4
CHDV 1312	Preschool Development & Learning OR	4
CHDV 1314	School Age Development & Learning OR	4
CHDV 1316	Mixed Age Development & Learning	4
	Electives: Choose 3 credits of technical electives from the following courses:	**3**
CHDV 1940	Internship 2: Special Setting	3
CHDV 2500	Shadow Study	1
CHDV 2520	Peaceful Classroom	3
CHDV 2530	Challenging Children: Behavior Management Strategies	3
CHDV 2540	Sensory/Motor Learning Experiences	3
CHDV 2550	Cognitive/Multimedia Learning Experience	3
CHDV 2560	Language/Literature Learning Experience	3
CHDV 2570	Multicultural Learning Experience	3
CHDV 2580	Creative Development Learning Experience	3
CHDV 2590	Social-Emotional Learning Experience	3
CHDV 2597	Special Topics	1-4
HLTH 1432	CPR for the Professional	1
	Total Program Requirements	**35**

Child Development Careers AAS Degree

Program Requirements

Course		Cr
CHDV 1200	Professional Relations in Early Childhood Careers	3
CHDV 1210	Foundations of Child Development	3
CHDV 1220	Child Safety, Health & Nutrition	4
CHDV 1230	Guidance: Managing Physical/Social Environ.	4
CHDV 1340	Planning & Implementing Curriculum	3
CHDV 1910	Internship 1	4
CHDV 2320	Profiles of the Exceptional Child	3
CHDV 2600	Professional Leadership	3
CHDV 2610	Practicum	3
CHDV 2640	Program Planning	3
	Subtotal	**33**

	Choose 1 of the 4 courses listed below:	**4**
CHDV 1310	Infant & Toddler Dev. & Learning or	4
CHDV 1312	Preschool Development & Learning or	4
CHDV 1314	School Age Development & Learning or	4
CHDV 1316	Mixed Age Development & Learning	4
	Electives: Choose a minimum of 9 credits from the following Technical Electives:	**9**
CHDV 1940	Internship 2 (Special Setting)	3
CHDV 2500	Shadow Study	1
CHDV 2520	Peaceful Classroom	3
CHDV 2530	Challenging Children: Behavior Mgmt. Strategies	3
CHDV 2540	Sensory/Motor Learning Experiences	3
CHDV 2550	Cognitive/Multimedia Learning Experiences	3
CHDV 2560	Language & Literature Learning Experiences	3
CHDV 2570	Multicultural Learning Experiences	3
CHDV 2580	Creative Development Learning Experiences	3
CHDV 2590	Social-Emotional Learning Experiences	3
CHDV 2597	Special Topics	1-4
HLTH 1432	CPR for the Professional	1
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**66**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List.

Programs

Child Development Careers
AS Degree

Program Requirements

Course		Cr
CHDV 1200	Professional Relations in Early Childhood Careers	3
CHDV 1210	Foundation of Child Development	3
CHDV 1220	Child Safety, Health & Nutrition	4
CHDV 1230	Guidance: Managing the Physical/Social Environment	4
CHDV 131N	(age specific) Development and Learning	4
CHDV 1340	Planning and Implementing Curriculum	3
CHDV 1910	Internship 1	4
CHDV 2320	Profiles of the Exceptional Child	3
CHDV 25NN	Technical Elective **OR**	3
CHDV 2640	Program Planning	3
CHDV 2600	Professional Leadership	3
	Subtotal	**34**
	General Education Requirements	**30**
	(Select at least 30 credits of General Education according to the Requirements below)	
	Total Program Requirements	**64**

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

Goal 3: Natural Sciences

Goal 4: Mathematical/Logical Reasoning

Select a minimum of 4 credits from Goal 5   4

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

Goal 6: Humanities and Fine Arts

Select a minimum of 13 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   13

*Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Child Care Administration
Advanced Technical Certificate

Program Requirements

Course		Cr
CHDV 2800	Child Development Administration	3
CHDV 2820	Child Development Financial Management	3
CHDV 2840	Child Development Staffing & Supervision	3
CHDV 2860	Advanced Internship – Administration of CD Setting	1
	Total Program Requirements	**10**

Note: For this certificate please see the Child Development program advisor.

Cosmetology Careers

Cosmetology Diploma . . . . 58 Credits
Cosmetology AAS Degree . . . . 72 Credits
Nail Care Technician Certificate. . . . . 16 Credits
Esthetician Certificate . . . . 27 Credits
Esthetician AAS Degree. . . . . 72 Credits
Esthetician Diploma . . . . 63 Credits

Cosmetology

Program Overview

Cosmetology services include the cleaning, conditioning, shaping, reinforcing, coloring and enhancing of the body surface in the areas of head, scalp, face, arms, hands, legs and feet.

Nail Technician services include the cleaning, shaping, conditioning and care for the fingers, hands, toes and feet as well as the preparation and application of artificial nails.

Students must have a high school diploma or equivalent (GED). Science courses provide a good background for the skills taught in hair analysis and treatment. Physical requirements include finger dexterity, negative allergic reaction to cosmetic preparations and artistic flair for creative design. The professional cosmetologist and nail technician should enjoy working with the public and in a team atmosphere. People skills and time management skills are necessary.

Career Opportunities

The job outlook has never been better for cosmetologists, estheticians and nail technicians. Increasing population, incomes and demand for cosmetology services will stimulate job growth. In addition, numerous job openings will stem from rapid turnover in salons and the large size of the occupation. The rapid growth of nail salons and full-service day spas will generate numerous job openings for cosmetologists skilled in hair, skin and nails.

After cosmetology students complete 1550 hours of skills and theory training and pass the written Experior and practical exam, they are eligible for licensure from the Minnesota Department of Commerce.

After Nail Technician students complete 350 hours of skills and theory training and pass the written Experior exam and practical exam, they are eligible for licensure from the Department of Commerce. Nail Care Technicians work in beauty and nail salons.

Program Outcomes (Cosmetology)

1. Graduates will pass the skills certification test.

2. Graduates will pass the Experior written exam and state law test.

3. Graduates will have knowledge and skills in cosmetology services (hair, nails and skin).

4. Graduates will have knowledge and skills in salon operations.

5. Graduates will be prepared for immediate employment as Cosmetologists.

6. Graduates will have successfully mastered the general education program requirements for work and life roles.

Program Outcomes (Nail Tech)

1. Graduates will pass the skills certification test.

2. Graduates will pass the Experior written exam and state law test.

3. Graduates will possess knowledge and skills for manicures, pedicures and application of artificial nails.

Cosmetology Diploma

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems and Diseases	4
CHSN 1461	Clinic 1 – Nails	3
CHSN 1462	Clinic 2 – Skin	4
CHSN 1463	Clinic 3 – Advanced Skin	4
CHSN 1464	Clinic 4 – Hair Shaping and Styling	4
CHSN 1465	Clinic 5 – Advanced Hair and License Prep	3
COSM 1405	Preclinic Hair Care 1	3
COSM 1406	Preclinic Hair Care 2	3
COSM 1407	Preclinic Nail Care	3
COSM 1409	Preclinic Chemical Control	3
COSM 1413	Preclinic Hair Color	3
COSM 1415	Advanced Hair Care	3
ESTH 1445	Cosmetic Chemistry & Makeup Applications	4

ESTH 1455	Skin Analysis & Massage	4
	Subtotal	**52**
	General Education Requirements	**3**
	Electives	**3**
	(Select at least 3 credits of the following Technical Electives to complete the required 1550 hours needed for licensure)	
COSM 1451	Salon Operations 1	1
COSM 1452	Salon Operations 2	2
COSM 1453	Salon Operations 3	3
COSM 1454	Salon Operations 4	4
COSM 1455	Salon Operations 5	5
COSM 1456	Salon Operations 6	6
COSM 1491	Cosmetology Internship	2-8
	Total Program Requirements	**58**

Cosmetology AAS Degree

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1461	Clinic 1 – Nails	3
CHSN 1462	Clinic 2 – Skin	4
CHSN 1463	Clinic 3 – Advanced Skin	4
CHSN 1464	Clinic 4 – Hair Shaping and Styling	4
CHSN 1465	Clinic 5 – Advanced Hair and License Prep	3
COSM 1405	Preclinic Hair Care 1	3
COSM 1406	Preclinic Hair Care 2	3
COSM 1407	Preclinic Nail Care	3
COSM 1409	Preclinic Chemical Control	3
COSM 1413	Preclinic Hair Color	3
COSM 1415	Advanced Hair Care	3
ESTH 1445	Cosmetic Chemistry & Makeup Applications	4
ESTH 1455	Skin Analysis & Massage	4
Select from the following electives as needed:		
COSM 1451	Salon Operations 1	1
COSM 1452	Salon Operations 2	2
COSM 1453	Salon Operations 3	3
COSM 1454	Salon Operations 4	4
COSM 1455	Salon Operations 5	5
COSM 1456	Salon Operations 6	6
COSM 1491	Cosmetology Internship Elective	2-8
	Subtotal	**52**
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   4

* Refer to the Minnesota Transfer Curriculum Course List.

Nail Care Technician Certificate

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1461	Clinic 1 – Nails	3
COSM 1407	Preclinic Nail Care	3
COSM 1452	Salon Operations 2	2
Select from the following electives as needed:		
COSM 1451	Salon Operations 1	1
COSM 1453	Salon Operations 3	3
	Total Program Requirements	**16**

Esthetics

Esthetician Certificate . . . . 27 Credits
Esthetician AAS Degree. . . . . 72 Credits
Esthetician Diploma . . . . 63 Credits

Program Overview

Esthetician services include specialized work with skin care products, analysis of skin, massage techniques, aromatherapy, facials. Students learn to apply makeup, provide temporary hair removal, use machines designed to administer skin treatments and application of makeup.

Career Opportunities

After 600 hours of training and passing the written and practical exam, students are eligible for Esthetician licensure from the Department of Commerce. Estheticians work in a variety of settings including salons, spas, fitness centers, and dermatologist, plastic surgeon offices and hospitals.

Program Outcomes (Esthetician)

1. Graduates will pass the esthetician skills certification test.

2. Graduates will pass the Experior esthetician written exam and state law test.

3. Graduates will have knowledge and skills in esthetician (skin) services.

4. Graduates will have knowledge and skills in salon operations focusing on skin services.

5. Graduates will possess knowledge and skills for personal care of the skin.

6. Graduates will be prepared for immediate employment as an esthetician.

7. Graduates will have the knowledge and skills for work and life roles.

8. Graduates will have the knowledge in cosmetic care product ingredients.

> Saint Paul College's Esthetician Program is a CIDESCO school. This means the program is allowed to prepare candidates for the CIDESCO examination.
>
> Comite International d'Esthetique et de Cosmetologie
> E-mail: cidesco@smile.ch
> Web site: www.cidesco.com

Esthetician Certificate

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1462	Clinic 2 – Skin	4
CHSN 1463	Clinic 3 – Advanced Skin	4
ESTH 1445	Cosmetic Chemistry & Makeup Applications	4
ESTH 1455	Skin Analysis & Massage	4
	Subtotal	**24**
	General Education Requirements	**3**
	Total Program Requirements	**27**

Programs

Select from the following electives as needed:

Course		Cr
ESTH 1551	Salon Operations for Estheticians 1	1
ESTH 1552	Salon Operations for Estheticians 2	2
ESTH 1553	Salon Operations for Estheticians 3	3
ESTH 1554	Salon Operations for Estheticians 4	4
ESTH 1555	Salon Operations for Estheticians 5	5
ESTH 1556	Salon Operations for Estheticians 6	6

Esthetician AAS Degree

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1462	Clinic 2 – Skin	4
CHSN 1463	Clinic 3 – Advanced Skin	4
COSM 1407	Preclinic Nail Care	3
ESTH 1445	Cosmetic Chemistry & Makeup Applications	4
ESTH 1455	Skin Analysis and Massage	4
HLTH 1410	Medical Terminology	1
HLTH 1420	Anatomy & Physiology	4
HLTH 1425	Clinical Applications in Kinesiology	3
MASS 1400	Introduction to Therapeutic Massage	4
MASS 1410	Therapeutic Massage Business Practices	3
	Subtotal	**42**
	Select one emphasis: Medical Esthetician **OR** Massage Therapy Esthetician Emphasis	**10**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

Medical Esthetician Emphasis

BIOL 1760	Nutrition	3
HLTH 1900	Pathology for Manual Therapists	4
PSYC 1720	Psychology Throughout the Lifespan	3

Massage Therapy Esthetician Emphasis

MASS 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1480	Massage Therapy Practicum	4

Select from the following electives as needed:

ESTH 1551	Salon Operations for Estheticians 1	1
ESTH 1552	Salon Operations for Estheticians 2	2
ESTH 1553	Salon Operations for Estheticians 3	3
ESTH 1554	Salon Operations for Estheticians 4	4
ESTH 1555	Salon Operations for Estheticians 5	5
ESTH 1556	Salon Operations for Estheticians 6	6

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4	3

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5	3

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6	3

Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List.

The following General Education courses are required for the **Medical Esthetician Emphasis:**

BIOL 1740	General Biology 1: the Living Cell	5
CHEM 1711	Principles of Chemistry 1	4
PSYC 1720	Psychology Throughout the Lifespan	3
SPCH 1720	Interpersonal Communication	3

The following General Education courses are required for the **Massage Esthetician Emphasis:**

BIOL 1760	Nutrition	3

Esthetician Diploma

Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1461	Clinic 1 – Nails	3
CHSN 1462	Clinic 2 – Skin	4
CHSN 1463	Clinic 3 – Advanced Skin	4
COSM 1407	Preclinic Nail Care	3
ESTH 1445	Cosmetic Chemistry & Makeup Applications	4
ESTH 1455	Skin Analysis and Massage	4
HLTH 1410	Medical Terminology	1
HLTH 1420	Anatomy & Physiology	4
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1460	Nutrition for the Health Professions	2
MASS 1400	Introduction to Therapeutic Massage	4
MASS 1410	Therapeutic Massage Business Practices	3
MASS 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1480	Massage Therapy Practicum	4
	Subtotal	**57**
	General Education Requirements	**6**
	Total Program Requirements	**63**

Select from the following electives as needed:

ESTH 1551	Salon Operations for Estheticians 1	1
ESTH 1552	Salon Operations for Estheticians 2	2
ESTH 1553	Salon Operations for Estheticians 3	3
ESTH 1554	Salon Operations for Estheticians 4	4
ESTH 1555	Salon Operations for Estheticians 5	5
ESTH 1556	Salon Operations for Estheticians 6	6

Culinary Arts

Culinary Arts AAS Degree . . . . 72 Credits
Culinary Arts Diploma . . . . 55 Credits
Baking and Decorating Certificate . . . . 9 Credits
Food Service Management Certificate . . . . 18 Credits
Short Order Cooking Certificate . . . . 25 Credits
Wine Professional Certificate . . . . 9 Credits

Program Overview

Chefs and cooks prepare a variety of foods in many different environments, from preparation of a la carte (prepared to order) to banquets for hundreds of people. Responsibilities include sanitation, maintaining an accounting and inventory control system, estimating the amount of food needed, purchasing food supplies and planning menus. Nutritional aspects of healthy cooking are increasingly incorporated into the chef's menu.

A good general education, good reading ability and a working knowledge of mathematics is important so that students can interpret weights and measures, calculate recipes and understand cost control, inventory control and forecasting.

Career Opportunities

According to the U.S. Bureau of Labor Statistics and National Restaurant Association, meal preparation continues to shift out of the home, providing plentiful opportunities for chefs, cooks and other food service workers. Americans spend more than $300 billion each year on meals eaten outside the home. The restaurant industry employs 11.6 million people, almost 9% of the total U.S. workforce. The number is expected to reach 13 million by 2010.

Opportunities are available in hotels, restaurants, resorts, clubs, catering and corporate dining, government and school kitchens. Institutional opportunities include health care, schools, corporations and government facilities. Culinary Arts careers can lead in many different directions such as hospitality management, sales, product development, or owning your own business. Articulation agreements exist with 4-year degree granting institutions to pursue advanced degrees in the culinary arts field.

Program Outcomes

1. Graduates will have knowledge and skills in culinary arts.

2. Graduates will demonstrate knowledge and skills in restaurant operations.

3. Graduates will be experienced in food preparation and presentation for business and industry.

4. Graduates will be prepared for immediate employment in the food service industry.

5. Graduates will have mastered the general education program requirements for work and life roles.

6. Graduates will be eligible for Minnesota Food Manager Certification.

7. Graduates will be eligible for certification by ACF "Certified Culinarian."

This program is accredited by the American Culinary Federation's Accrediting Commission.

Programs

Culinary Arts AAS Degree

Program Requirements

Course		Cr
CULA 1400	Introduction to Culinary Arts	1
CULA 1410	Basic Baking	2
CULA 1420	Basic Pantry	2
CULA 1430	Basic Range	2
CULA 1440	Breakfast	1
CULA 1450	Meat Fabrication	2
CULA 1460	Basic Menu Production	2
CULA 1470	Food Service Sanitation	2
CULA 1480	Nutrition	2
CULA 1490	Food Service Math	2
CULA 1510	Commercial Bakery Production	2
CULA 1520	Commercial Pantry Production	2
CULA 1530	Commercial Range Production	2
CULA 1535	Catering	1
CULA 1540	Food Service Supervisory Management	2
CULA 1550	Grill/Short Order Cooking	2
CULA 1560	Food, Beverage & Labor Cost Control	3
CULA 1570	Basic Cake Decorating	2
CULA 2410	Restaurant Operations Theory	2
CULA 2411	Restaurant Operations Lab 1	3
CULA 2412	Restaurant Operations Lab 2	3
CULA 2420	Service	2
CULA 2430	Advanced Foods and Wine Appreciation	2
CULA 2440	Ice Carving	1
CULA 2450	Advanced Cake & Pastry	2
CULA 2460	Classical Buffet	3
	Subtotal	**52**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr OR
> SPCH 1710 Fundamentals of Public Speaking – 3 cr OR
> SPCH 1720 Interpersonal Communication – 3 cr OR
> SPCH 1730 Intercultural Communication – 3 cr OR
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   4

* Refer to the Minnesota Transfer Curriculum Course List.

Culinary Arts Diploma

Program Requirements

Course		Cr
CULA 1400	Introduction to Culinary Arts	1
CULA 1410	Basic Baking	2
CULA 1420	Basic Pantry	2
CULA 1430	Basic Range	2
CULA 1440	Breakfast	1
CULA 1450	Meat Fabrication	2
CULA 1460	Basic Menu Production	2
CULA 1470	Food Service Sanitation	2
CULA 1480	Nutrition	2
CULA 1490	Food Service Math	2
CULA 1510	Commercial Bakery Production	2
CULA 1520	Commercial Pantry Production	2
CULA 1530	Commercial Range Production	2
CULA 1535	Catering	1
CULA 1540	Food Service Supervisory Management	2
CULA 1550	Grill/Short Order Cooking	2
CULA 1560	Food, Beverage & Labor Cost Control	3
CULA 1570	Basic Cake Decorating	2
CULA 2410	Restaurant Operations Theory	2
CULA 2411	Restaurant Operations Lab 1	3
CULA 2412	Restaurant Operations Lab 2	3
CULA 2420	Service	2
CULA 2430	Advanced Foods and Wine Appreciation	2
CULA 2440	Ice Carving	1
CULA 2450	Advanced Cake & Pastry	2
CULA 2460	Classical Buffet	3
	General Education Requirement	**3**
	Total Program Requirements	**55**

Baking and Decorating Certificate

Program Requirements

Course		Cr
CULA 1400	Introduction to Culinary Arts	1
CULA 1410	Basic Baking	2
CULA 1470	Food Service Sanitation	2
CULA 1490	Food Service Math	2
CULA 1570	Basic Cake Decorating	2
	Total Program Requirements	**9**

Food Service Management Certificate*

Program Requirements

Course		Cr
HSPM 1410	Introduction to Hospitality Management (new)	3
BUSN 2450	Management Fundamentals	3
CULA 1540	Food Service Supervisory Management	2
CULA 1560	Food, Beverage & Labor Cost Control	3
CULA 1470	Food Service Sanitation	2
HSPM 2591	Hospitality Management Internship	5
	Total Program Requirements	**18**

*Also see Hospitality Management under business Programs.

Short Order Cooking Certificate

Program Requirements

Course		Cr
CULA 1400	Introduction to Culinary Arts	1
CULA 1410	Basic Baking	2
CULA 1420	Basic Pantry	2
CULA 1430	Basic Range	2
CULA 1440	Breakfast	1
CULA 1450	Meat Fabrication	2
CULA 1460	Basic Menu Production	2
CULA 1470	Food Service Sanitation	2
CULA 1480	Nutrition	2
CULA 1490	Food Service Math	2
CULA 1520	Commercial Pantry Production	2
CULA 1550	Grill/Short Order	2
	General Education Requirement	**3**
	Total Program Requirements	**25**

Wine Professional

Program Overview

Chefs and cooks prepare a variety of foods in many different environments, from preparation of a la carte (prepared to order) to banquets for hundreds of people. Responsibilities include sanitation, maintaining an accounting and inventory control system, estimating the amount of food needed, purchasing food supplies and planning menus. Nutritional aspects of healthy cooking are increasingly incorporated into the chef's menu. The Wine Professional Certificate provides the graduate with a strong knowledge of wine, wine service skills and wine marketing strategies.

A good general education, good reading ability and a working knowledge of mathematics is important so that students can interpret weights and measures, calculate recipes and understand cost control, inventory control and forecasting.

Must be 21 years of age. All credits must be completed in one semester.

Career Opportunities

According to the US Bureau of Labor Statistics and National Restaurant Association, meal preparation continues to shift out of the home, providing plentiful opportunities for chefs, cooks and other food service workers. Americans spend more than $300 billion each year on meals eaten outside the home. The restaurant industry employs 11.6 million people, almost 9% of the total US workforce. The number is expected to reach 13 million by 2010. The wine industry is rapidly expanding within the United States, with wine sales more than doubling from $10.9 billion in 1991 to $21.1 billion in 2001. Wine sales are an important profit center for the restaurant/hospitality industry and a comprehensive knowledge of wine is critical for maximizing outcomes.

Opportunities are available in hotels, restaurants, resorts, clubs, catering and corporate dining, government and school kitchens. Institutional opportunities include health care, schools, corporations and government facilities. Culinary Arts careers can lead in many different directions such as hospitality management, sales, product development, or owning your own business. Graduates of the Wine Professional Certificate will be prepared for careers in the restaurant/hospitality industry, wine distribution and wholesale/retail wine trade. Articulation agreements exist with 4-year degree granting institutions to pursue advanced degrees in the culinary arts field.

Program Outcomes (Wine Professional)

1. Graduates will have knowledge/skills in professional tasting techniques for assessment and evaluation of wine.

2. Graduates will have knowledge and skills in wine service techniques.

3. Graduates will have knowledge and skills in wine business considerations.

4. Graduates will have knowledge and skills in wine merchandising, marketing, public relations.

Wine Professional Certificate

Program Requirements

Course		Cr
CULA 1600	Professional's Introduction to Wine	2
CULA 1610	Flavor Dynamics of Wine	2
CULA 1620	Professional Wine Service	1
CULA 1630	Strategies for Pairing Wine with Food	2
CULA 1640	Wine Marketing	2
	Total Program Requirements	**9**

Programs

Health Unit Coordinator

Health Unit Coordinator Certificate . . . . 17 Credits
Health Unit Coordinator Diploma . . . . 32 Credits

Program Overview

Health Unit Coordinators work at the nursing station in health care facilities. As the center of communications on the nursing unit, they are responsible for reading doctor's orders for patient treatments, medications and tests and accurately relaying those orders to the appropriate department. The Health Unit Coordinator is responsible for performing clerical tasks for the nursing stations such as answering the telephone, operating the computer, assisting visitors to the unit, filing, managing station records and maintaining patient's charts.

Health Unit Coordinators must be able to complete detailed tasks with a high degree of accuracy, while working in a busy environment. They must be self-motivated and conscientious to complete work independently and be able to solve problems logically. Excellent written and verbal communication skills are essential. All health care workers must have a high degree of ethics in maintaining the confidentiality of patient information. Health Unit Coordinators must be professional in interactions with others, performance of job responsibilities and appearance. They must be high school graduates or the equivalent and must have received training as a Health Unit Coordinator.

Career Opportunities

Unit Coordinators are employed in front desk positions at various metropolitan private and public hospitals, nursing homes and clinics. The approximate starting pay is $11.00–$13.00 per hour. The National Association of Health Unit Coordinators conducts an optional certification testing program for Health Unit Coordinators.

Program Outcomes

1. Graduates will possess the knowledge necessary to process physicians orders.

2. Graduates will have the ability to manage the clerical aspects of the nursing unit.

3. Graduates will have the ability to function in the receptionist role on the nursing unit.

4. Graduates will demonstrate their knowledge and skills by performing as a HUC via Internship.

5. Graduates will be prepared for immediate employment as a HUC.

This program meets National Association of HUC Standards and prepares students for the National HUC certification exam.
NAHUC Web site: www.NAHUC.org

Health Unit Coordinator Certificate

Program Requirements

Course		Cr
HLUC 1410	Diagnostic & Therapeutic Procedures	4
HLUC 1420	Health Unit Coordinator Fundamentals	4
HLUC 1510	Processing Physicians Orders 1	3
HLUC 1511	Processing Physicians Orders 2	3
HLUC 2491	Health Unit Coordinator Internship	3
	Total Program Requirements	**17**

Health Unit Coordinator Diploma

Program Requirements

Course		Cr
ADMS 1405	Introduction to Microcomputers for Health Programs	3
HLUC 1410	Diagnostic & Therapeutic Procedures	4
HLUC 1420	Health Unit Coordinator Fundamentals	4
HLUC 1510	Processing Physicians Orders 1	3
HLUC 1511	Processing Physicians Orders 2	3
HLUC 2491	Health Unit Coordinator Internship	3
SPCH 1720	Interpersonal Communication **OR**	3
SPCH 1730	Intercultural Communication	3
	General Education Requirement	**3**
	Subtotal	**26**
	Electives	**6**
	(Select a minimum of 6 credits from the following electives with Advisor approval)	
ADMS 1400	Microcomputer Keyboarding	2
COMM 1480	Job Seeking Resources	1
COMM 1510	Customer & Occupational Relations	3
HLTH 1420	Anatomy & Physiology	4
HLTH 1432	CPR for the Professional	1
HLTH 1450	Healthcare Law & Ethics	2
HLTH 1460	Nutrition for the Health Professions **OR**	2
BIOL 1760	Nutrition	3
COMM 1485	Employment Portfolio Development & Presentation	2
	Total Program Requirements	**32**

Massage Therapy Careers

Clinical Massage Therapy AAS Degree. . . . . . . 60 Credits
Massage Therapy Certificate. . . . . 30 Credits

Massage Therapy

Program Overview

Massage Therapists manipulate soft tissue structures of the body to prevent and alleviate pain, using techniques such as Swedish Massage, Reflexology, Sports Massage, Neuromuscular Therapy, Myofascial Release, Lymphatic Drainage, PNF and AIS stretching techniques and Travel Trigger Point Therapy. Graduates of the certificate program integrate manual massage techniques to positively contribute to the well-being of the client in a safe and skillful manner. Graduates of the Clinical Massage Therapy Program perform all of the skills in the certificate program and learn to perform thorough client assessments and develop a plan of care based on assessments. Students implement a plan of care utilizing carefully selected techniques for the given disorders including recommended exercises for the client.

Career Opportunities

The employment outlook for massage therapists is projected to be better than average in the upcoming years. The increasing population, increasing personal incomes, longer life spans and an increasing recognition that massage is beneficial to reduce stress, relieve pain and improve overall health all contribute to an increased demand for these workers. Factors affecting long term growth include economic well-being and the degree to which insurance companies and HMO's will reimburse for this service. Graduates perform massage therapy in health spas, resorts, health clubs, retirement residences, country clubs, hospitals, chiropractic offices, long-term care facilities and clinics, or they may be self-employed.

The Massage Therapy Certificate program meets the minimum requirement of 600 technical hours of study required for accreditation by the American Massage Therapy Association Commission on Massage Therapy Accreditation and 600 hours of study for state licensure required in surrounding states. The AAS in Clinical Massage Therapy builds upon the existing Certificate Program. Students are trained in specific Medical Massage Therapy techniques and pathologies as recommended by the American Medical Massage Association. Upon completion of the 1200 hour program, students will be eligible to apply for National Certification in Medical Massage Therapy. This is the only program in Minnesota addressing Medical Massage.

Program Outcomes (Massage Therapy Certificate)

1. Graduates will provide application of manual techniques to positively contribute to the well-being of the client in a safe and skillful manner.

2. Graduates will be prepared to take the national certification exam in massage therapy.

3. Graduates will be prepared for employment in an entry-level capacity.

Program Outcomes (Massage Therapy AAS) (in addition to certificate outcomes above)

1. Graduates will be prepared to take the national certification exam in medical massage therapy.

2. Graduates will be prepared for employment in a medical environment.

Clinical Massage Therapy AAS Degree

Program Requirements

Course		Cr
HLTH 1410	Medical Terminology	1
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1900	Pathology for Manual Therapists	4
MASS 1400	Introduction to Therapeutic Massage	4
MASS 1410	Therapeutic Massage Business Practices	3
MASS 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1423	Massage Advanced Clinical Techniques	5
MASS 1480	Massage Therapy Practicum	4
MASS 1490	Massage Clinic Internship	5
	Subtotal	**35**
	General Education Requirements (See below for specific General Education requirements for this program)	**25**
	Total Program Requirements	**60**

AAS Degree General Education Requirements*   25 Credits

Students are required to complete ENGL 1711 and
SPCH 1720   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1720 Interpersonal
> Communication – 3 cr

Students are required to take from Goal 3 & Goal 4   11

> Goal 3: Natural Sciences
> BIOL 1760 Nutrition – 3 cr
> BIOL 2721 Hum Anat & Physiology 1 – 4 cr
> BIOL 2722 Hum Anat & Physiology 2 – 4 cr
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 4 credits from Goal 5   4

> Goal 5: History, Social Science and
> Behavioral Sciences
> PSYC 1710 General Psychology – 4 cr

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

*Refer to the Minnesota Transfer Curriculum Course List.

Massage Therapy Certificate

Program Requirements

Course		Cr
HLTH 1410	Medical Terminology	1
HLTH 1420	Anatomy and Physiology	4
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1460	Nutrition for the Health Professions	2
MASS 1400	Introduction to Therapeutic Massage	4
MASS 1410	Therapeutic Massage Business Practices	3
MASS 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1480	Massage Therapy Practicum	4
	General Education Requirements	**3**
	Total Program Requirements	**30**

Medical Laboratory Technician

Medical Laboratory Technician AAS Degree . . 72 Credits

Program Overview

Medical/Clinical laboratory technicians collect blood, examine and analyze body fluids, tissues and cells. They look for bacteria, parasites, or other microorganisms; analyze the chemical content of fluids; match blood for transfusions and test for drug levels in the blood to show how a patient is responding to treatment. They also prepare specimens for examination, or count cells and look for abnormal cells. They use automated equipment and instruments that perform a number of tests simultaneously, as well as microscopes, cell counters and other kinds of sophisticated laboratory equipment to perform tests. Then they analyze the results and relay them to physicians.

Qualifications include an interest in science and mathematics, accuracy, moral and intellectual integrity, self-discipline and desire to contribute to quality health care. Laboratory workers must have the skill to perform or master a variety of tasks.

Students begin the program as a premajor. A premajor may take all of the required general education courses, medical terminology and MDLT 1400.

To become a Medical Laboratory Technician major, students must apply to and be accepted into the MLT program, complete ENGL 1711 and CHEM 1711, or demonstrate readiness for the two courses through assessment scores or by taking the appropriate prerequisites. The student must achieve a cumulative GPA of 2.5 or better with a minimum grade of "C" in all college level courses. Once admitted as an MLT major, an applicant must attend a mandatory MLT Seminar to complete documentation required for entry into the program.

Upon completion of the program, the student is eligible to take an examination administered by the Board of Registry under the direction of ASCP and/or National Certification Agency (NCA).

Career Opportunities

Laboratory tests are of vital importance to modern medical practice. Increased job opportunities relate to both the volume of tests and the number of new tests developed. Labs are hiring increasing numbers of Medical/Clinical Laboratory Technicians as their core staff. Technicians are employed in hospital laboratories, clinics, doctor's offices, public health agencies and pharmaceutical, industrial and medical research laboratories.

Program Outcomes

1. The graduate will demonstrate proper use, calibration, adjustment and operation of most laboratory precision instrumentation including clinical microscopes, spectrophotometers, centrifuges, automated counters, computers, and chemistry analyzers.

2. The graduate will demonstrate standard safety practices in the medical laboratory designed to prevent injury, illness, or loss of life to those working in and/or around the medical laboratory equipment with particular emphasis on the skills required for collection and testing of numerous body fluids and specimens using Standard Precautions (including the use of personal protective equipment).

3. The graduate will correlate pathological conditions of the human body, including cause and symptoms, to the laboratory's role in diagnosis and treatment.

4. The graduate will demonstrate organized work skills as reflected in efficient time and material utilization while performing proficiently and safely in the clinical environment.

5. The graduate will perform a wide variety of testing procedures employed in a medical laboratory and relate the principles of quality assurance and the importance of these procedures to the diagnosis and treatment of disease processes in the following areas: clinical chemistry, hematology and hemostasis, urinalysis, microbiology, immunohematology and immunology.

6. The graduate will pass the examination administered by the Board of Registry under the direction of ASCP and ASCLST/or National Certification Agency (NCA).

7. The graduate will demonstrate preparedness for entry level employment as a Medical Laboratory Technician; including both technical expertise and effective communication skills.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

NAACLS
8410 W. Bryn Mawr, Suite 670
Chicago, IL 60631-3415
Phone: 773.714.8880
Fax: 773.714.8886
E-mail: naaclsinfo@naacls.org
URL: www.naacls.org

Medical Laboratory Technician AAS Degree*

Program Requirements

Course		Cr
HLTH 1410	Medical Terminology	1
MDLT 1400	Orientation	1
MDLT 1410	Laboratory Techniques	3
MDLT 1421	Hematology 1	2
MDLT 1422	Hematology 2	4
MDLT 1430	Urinalysis/Body Fluids	3
MDLT 1441	Clinical Chemistry 1	2
MDLT 1442	Clinical Chemistry 2	4
MDLT 1446	Phlebotomy	1
MDLT 1451	Learning Lab 1 (Elective Option)	1
MDLT 1452	Learning Lab 2 (Elective Option)	1
MDLT 1453	Learning Lab 3 (Elective Option)	1
MDLT 1454	Learning Lab 4 (Elective Option)	1
MDLT 1510	Immunology	2
MDLT 2400	Mycology/Parasitology	2
MDLT 2410	Immunohematology	3
MDLT 2420	Clinical Microbiology	4
MDLT 2430	Clinical Practice Orientation	1
MDLT 2455	Learning Lab 5 (Elective Option)	1
MDLT 2456	Learning Lab 6 (Elective Option)	1
MDLT 2591	Clinical Practice	9
MDLT 2593	Comprehensive Examinations	1
Subtotal		**43**
General Education Requirements		**29**
(Select 29 credits of General Education according to the distribution listed below)		
Total Program Requirements		**72**

* To be designated as an MLT major; student assessment scores must indicate readiness for ENGL 1711, or that student has completed the course; and readiness for CHEM 1711 or completion of course prerequisite.

AAS Degree General Education Requirements*   29 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech
> Communication – 3 cr **OR**
> SPCH 1710 Fundamentals of
> Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal
> Communication – 3 cr **OR**
> SPCH 1730 Intercultural
> Communication – 3 cr **OR**
> SPCH 1750 Small Group
> Communication – 3 cr

Students are required to complete BIOL 1730, BIOL 1740, CHEM 1711 and CHEM 1712 from Goal 3   16

> Goal 3: Natural Sciences
> BIOL 1730 Human Body Systems – 3 cr
> BIOL 1740 General Biology 1:
> The Living Cell – 5 cr
> CHEM 1711 Chemistry 1 – 4 cr
> CHEM 1712 Chemistry 2 – 4 cr

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science and Behavioral Sciences
> PSYC 1710 General Psychology OR
> SOCI 1720 Social Issues in a Changing
> World - recommended

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts
> PHIL 1720 Ethics recommended

* Refer to the Minnesota Transfer Curriculum Course List.

Practical Nursing

Practical Nursing AAS . . . . 63 Credits
Practical Nursing Diploma . . . . 57 Credits

Program Overview

Under the supervision of registered nurses and physicians, licensed practical nurses may care for infants and mothers; children and adolescents; and young, middle and older adults. Using learned technical skills, practical nurses assist clients in meeting their physical and psychosocial needs. Licensed practical nurses administer medications and perform treatments.

Students begin the program as a premajor. A premajor may take all of the health core classes and PRNS courses in lifespan development, pharmacology and psychosocial nursing.

To become a Practical Nursing major, an applicant must complete the Accuplacer assessment and meet minimum program requirements, complete Medical Terminology, Anatomy & Physiology, Nutrition and English Composition and achieve a cumulative GPA of 2.5 or better with a minimum grade of "C" in each of the four courses. An applicant must attend a Practical Nursing Seminar to obtain information about the NET (Nursing Entrance Test) and receive a ticket to take the NET. Complete the NET and obtain an overall score of 41% or above and a minimum of 57% in the math portion. Complete and submit the Application to Practical Nursing Major.

A record of the required immunizations must be submitted prior to the semester in which the student registers for clinical courses.

The Practical Nursing AAS degree includes major general education course requirements to enter an accelerated RN program.

Career Opportunities

Employment of LPNs is expected to increase faster than the average for all occupations through the year 2006 in response to the long-term care needs of a rapidly growing population of elderly people, the general growth of the health care field and the nursing shortage.

Graduates may be employed in hospitals, long-term care agencies, clinics and home care agencies. Upon completion of the program, students are qualified to take the National licensure examination for practical nursing (NCLEX-PN).

Program Outcomes

1. The graduate will participate in the nursing process of assessment, planning, implementation and evaluation to provide basic therapeutic and preventive nursing care to clients.

2. The graduate will communicate effectively with clients, families, significant others and health care personnel.

3. The graduate will meet and exceed the Minnesota Board of Nursing abilities plan.

4. The graduate will pass the NCLEX-PN licensure exam.

5. The graduate will obtain job placement in nursing care.

Practical Nursing AAS

Program Premajor Requirements

Course		Cr
HLTH 1410	Medical Terminology*	1
BIOL 2721	Human Anatomy & Physiology 1* (Must complete BIOL 2721 Anatomy & Physiology 1 to apply to program. Complete BIOL 2722 Anatomy & Physiology 2 before starting major). (Fulfills Gen. Ed. Requirement - Goal 3)	4
BIOL 2722	Human Anatomy & Physiology 2 (Fulfills Gen. Ed. elective.)	4
HLTH 1460	Nutrition for the Health Profession*	2
ADMS 1405	Introduction to Computer for Health Programs	2
HLTH 1450	Healthcare Law & Ethics	2
ENGL 1711	Composition 1* (Fulfills Gen. Ed. Requirement - Goal 1)	4
SPCH 1710, 1720, 1730	(Fulfills Gen. Ed. Requirement – Goal 1)	3
PSYC 1720	Psychology throughout the Lifespan (Fulfills Gen. Ed. Requirement – Goal 5)	3

* These courses must be taken prior to applying to Practical Nursing major.

Program Major Requirements

Course		Cr
PRNS 1420	Essentials of Clinical Pharmacology	3
PRNS 1430	Fundamentals of Nursing	5
PRNS 2410	Psychosocial Nursing	2
PRNS 1491	Clinical 1	4
PRNS 1492	Clinical 2	4
PRNS 1493	Clinical 3	4
PRNS 1521	Medical Surgical 1	4
PRNS 1522	Medical Surgical 2	4
PRNS 1530	Maternal Child Health	3
PRNS 2491	Integrated Nursing Practicum	2
	Subtotal	**35**
	General Education Credits	**21**
	Total Program Credits	**63**

AAS Degree General Education Requirements*   21 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1-4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Students are required to complete the following courses from Goal 3

Goal 3: BIOL 2721 Anatomy & Physiology 1 (General Biology 1740 is prereq)   4
BIOL 2722 Anatomy & Physiology 2   4
Goal 5: PSYCH 1720 Psych throughout Lifespan   3

Select a minimum of 3 credits from Goal 6

Goal 6: Humanities and Fine Arts-Student's choice 3

Select a minimum 4 additional credits from Goal 1-10 (fulfilled by BIOL 2722 Anatomy & Physiology 2)

Practical Nursing Diploma

Program Premajor Requirements

Course		Cr
HLTH 1410	Medical Terminology*	1
	CPR course/certification prior to PRNS 1492 Clinical 2	
ENGL 1711	English Composition 1*	4
HLTH 1420	Anatomy & Physiology*	4
HLTH 1460	Nutrition for the Health Professions*	2
ADMS 1405	Introduction to Computers for Health Programs	3
HLTH 1450	Healthcare Law & Ethics	2
PRNS 1440	Lifespan Development	3
SPCH 1720	Interpersonal Communication **OR**	3
SPCH 1730	Intercultural Communication	3

* These courses must be completed prior to applying to Practical Nursing major.

Program Major Requirements

Course		Cr
PRNS 1420	Essentials of Clinical Pharmacology*	3
PRNS 1430	Fundamentals of Nursing	5
PRNS 1491	Clinical 1	4
PRNS 1492	Clinical 2	4
PRNS 1493	Clinical 3	4
PRNS 1521	Medical Surgical 1	4
PRNS 1522	Medical Surgical 2	4
PRNS 1530	Maternal/Child Health	3
PRNS 2410	Psycho/Social Nursing*	2
PRNS 2491	Integrated Nursing Practicum	2
	Total Program Requirements	**57**
PRNS 1410	Clinical Refresher (option)	2
HLTH 1415	Success Strategies for Health Care Providers (option)	2

* Also may be taken as a premajor.

Saint Paul College recognizes Practical Nursing graduates often continue their studies in an RN program. Although the Practical Nursing specific courses designated with the prefix PRNS transfer as a nursing package; there are General Education course recommendations to consider prior to pursuing the RN program. The Practical Nursing AAS requires the student to complete 21 General Education requirements and is designed to provide the student with a significant portion of the Gen Eds required for RN programs. RN programs have specific General Education (chemistry and biology) course requirements. Therefore, a student may choose to take the General Education transferable options rather than HLTH or PRNS courses. Note: The receiving college determines which courses are accepted in transfer. Please refer questions to the Transfer Specialist at 651.846.1624 or call 651.846.1618 for an appointment.

This program is accredited by the National League for Nursing Accrediting Commission

33rd Floor
61 Broadway
New York, NY 10006
Phone: 800.669.1656
Fax: 212.812.0390
URL: www.nlnac.org

Respiratory Therapist/ Respiratory Care Practitioner

Respiratory Therapist/Respiratory Care
Practitioner AAS Degree . . . . 80 Credits

Program Overview

Respiratory Care Practitioners administer gas therapy, aerosol medications, various breathing treatments and chest physiotherapy. They provide mechanical ventilation, special diagnostic and therapeutic procedures and cardiopulmonary resuscitation. Laboratory procedures including pulmonary function testing and arterial blood-gas analysis are also performed.

Students must have a high school diploma or equivalency certificate. Preparation best suited for this program includes excellent reading skills, biology, chemistry and physics. High school algebra is required for this program. Further, one should have good manual dexterity and an ability to lift fifty pounds.

Career Opportunities

Job opportunities are expected to remain good. Employment of respiratory therapists is expected to increase much faster than the average for all occupations through the year 2006 because of substantial growth of the middle-aged and elderly population, a development that will heighten the incidence of cardiopulmonary disease.

Respiratory Care Practitioners are employed by hospitals, clinics or laboratories and home care agencies. Graduates find employment through contacts made during the clinical training experiences and employment requests received by the instructional staff.

Program Outcomes

1. Graduates will have demonstrated knowledge and skills in Respiratory Therapist/Respiratory Care Practitioner Clinical Experiences.

2. Graduates will have demonstrated knowledge and skills in Respiratory Therapist/Respiratory Care Practitioner clinical simulations.

3. Graduates will pass the National Certification Exam.

4. Graduates will be prepared for employment as Respiratory Therapists/Respiratory Care Practitioners.

5. Graduates will have successfully mastered the general education program requirements for work and life roles.

Respiratory Therapist/Respiratory Care Practitioner AAS Degree

Program Premajor Requisites

Course		Cr
HLTH 1410	Medical Terminology	1

Program Premajor Requirements

(These courses must be completed by the end of the first fall semester of the program major).

Course		Cr
BIOL 1750	General Microbiology	4
CHEM 1711	Chemistry 1	4
ENGL 1711	Composition 1	4
HLTH 1420	Anatomy & Physiology	4
HLTH 1450	Health Care Law & Ethics	2

Program Major Requirements

Course		Cr
Completion of American Heart Association CPR Course "C"		
RESP 1410	Respiratory Care Essentials*	3
RESP 1510	Cardiopulmonary Pathophysiology 1	3
RESP 1520	Respiratory Care Therapeutics	5
RESP 1540	Respiratory Care Pharmacology	2
RESP 1591	Respiratory Care Clinical 1	2
RESP 1592	Respiratory Care Clinical 2	3
RESP 1593	Respiratory Care Clinical 3	4
RESP 1594	Respiratory Care Clinical 4	6
RESP 1595	Respiratory Care Clinical 5	6
RESP 2410	Mechanical Ventilation	4
RESP 2420	CP Pathophysiology 2	1
RESP 2430	Neonatal Pediatric Resp Care	2
RESP 2440	Management of the Critically Ill Patient	4
RESP 2450	Cardio Pulmonary Diagnostics	1
RESP 2470	Registry Review	3
RESP 2510	Survey of Human Disease	2
RESP 2520	Respiratory Care in Alternate Sites	2
	Subtotal	**59**
	General Education Requirements	**21**
	(Select at least 21 credits of General Education according to the requirements listed below)	
	Total Program Requirements	**80**

* Must be accepted to the Respiratory Therapist program major to register for this course.

AAS Degree General Education Requirements* 21 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   **7**

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal Communication – 3 cr **OR**
> SPCH 1730 Intercultural Communication – 3 cr **OR**
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 4 credits from Goal 3 or Goal 4   **4**
Students are required to complete BIOL 1750 from Goal 4

> Goal 3: CHEM 1711 Principles of Chemistry – 4 cr **OR**
> Goal 4: BIOL 1750 – General Microbiology – 4 cr

Select a minimum of 3 credits from Goal 5   **3**

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   **3**

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   **4**

* Refer to the Minnesota Transfer Curriculum Course List.

Watchmaking/Clockmaking

Micro Mechanical Technology Diploma. . . . . . . 72 Credits
Watchmaking Certificate . . . . 30 Credits
Clockmaking Certificate. . . . . 29 Credits

Micro Mechanical Technology

Program Overview

The Micro Mechanical Technology Diploma Program at Saint Paul College is designed to prepare students for employment in industries that require a high degree of dexterity and precision such as: watch repair, medical device manufacturing and aerospace. New students can start in the Micro Mechanical Technology Program only in the spring semester of each year.

Students in this program will learn to design, fabricate and manipulate precise mechanical components and mechanisms using precision hand tools, microscope, watchmakers' loupe, watchmakers' lathe and turns. Tolerances will be held to as little as 5 microns. Mastery of these skills will be continually assessed by Saint Paul College faculty and Swiss industry professionals to insure that the highest standards are achieved and maintained.

This is a full-time 40 hour/week program and cannot be taken on a part-time basis. All courses in this program must be taken sequentially due to the scheduling of the international collaboration and assessment by the Watchmakers of Switzerland Training and Education Program(WOSTEP).

Career Opportunities

Graduates from this program are in high demand. Companies that seek employees with the skills and knowledge taught in this program are Honeywell, Lockheed Martin, Medtronic. The salary range for graduates is $30,000 to $40,000.

This program is also the prerequisite for the Watchmaking Certificate Program. Students who pass all of the intermediate assessments and successfully complete all of the requirements of this program and have a GPA of 3.0 "B" or better will be accepted into the Watchmaking Certificate Program which must begin at the start of the summer semester immediately following the completion of this prerequisite program.

Program Outcomes

1. Graduates will demonstrate knowledge of the fundamentals of the micro mechanical processes through the use of hand tools such as hand files, jeweler's saw and various vices and clamps to manufacture defined projects to precision tolerances.

2. Graduates will demonstrate the proper use and function of a watchmaker's lathe and turns to make cylindrical shapes to precise measurements.

3. Graduates will set jeweled bearings and perform precision oiling.

Micro Mechanical Technology Diploma

Program Requirements

Course		Cr
WMCM 1200	Micro Mechanics - Filing 1	5
WMCM 1201	Micro Mechanics - Filing 2	5
WMCM 1202	Micro Mechanics - Turning 1	5
WMCM 1203	Micro Mechanics - Turning 2	5
WMCM 1204	Micro Mechanics - Tool Making 1	5
WMCM 1205	Micro Mechanics - Tool Making 2	5
WMCM 1206	Micro Mechanics - Mainsprings	5
WMCM 1207	Micro Mechanics - Gear Train	5
WMCM 1208	Micro Mechanics - Escapement	5
WMCM 1209	Micro Mechanics - Balance Wheel	5
WMCM 1210	Micro Mechanics - Hairspring 1	5
WMCM 1211	Micro Mechanics - Hairspring 2	5
WMCM 1212	Micro Mechanics - Timing	5
WMCM 1213	Micro Mechanics - External Parts/Capstone	4
	General Education Requirements	**3**
	Total Program Requirements	**72**
	Optional Electives:	
	WMCM 1480 Horological Lab 1	3
	WMCM 1580 Horological Lab 2	3
	WMCM 2480 Horological Lab 3	3

Watchmaking

Program Overview

Watch repair is a rewarding and challenging career that requires patience, excellent eyesight and steady hands. Well-qualified watchmakers are greatly needed to repair the complex, high-end watches that are being sold today. The Rolex Foundation has joined with Saint Paul College to create a technologically current facility for our long-established Micro Mechanical Technology/Watchmaking Program. The Watchmaking Certificate Program at Saint Paul College is an advanced certificate and a continuation of the skills and knowledge taught in the Micro Mechanical Technology Diploma Program. This program also serves as preparation for certification by the Watchmakers of Switzerland Training and Education Program (WOSTEP).

Students in this program will be taught the fine art of watchmaking. Vintage, modern, simple and complicated watches will be cleaned, oiled and adjusted with strong emphasis on troubleshooting and problem solving. Students will be required to perform "real world" repairs in addition to the class watches. Electronic portfolios will be used to document the individual's work. Communication skills, both written and oral and workshop organization will be emphasized to better prepare the student for employment.

This is a full-time 40 hour/week program and cannot be taken on a part-time basis. All courses in this program must be taken sequentially due to the scheduling of the international collaboration and assessment by the Watchmakers of Switzerland Training and Education Program (WOSTEP). Enrollment in this program is only open to those students who have passed all of the intermediate assessments and successfully completed all of the requirements for the Micro Mechanical Technology Diploma Program with a GPA of 3.0 "B" or better. Participation in this program must begin at the start of the summer semester immediately following the completion of this prerequisite program due to the same scheduling constraints stated above.

Career Opportunities

Graduates of the program are qualified to apply for a variety of positions:

- Watch repairer in a workshop or repair center for mechanical and electronic watches
- Owner, manager or employee of a watch repair center or jewelry store
- Person in charge of after-sales service network for a watch distributor or brand on a regional or national basis
- Manager of a jewelry store that specializes in sales and repair

Starting salaries in these positions range from $40,000 to $45,000.

Program Outcomes

1. Graduates will demonstrate effective repair techniques for historical and modern watch calendar mechanisms.

2. Graduates will demonstrate effective repair techniques for historical and modern automatic winding watch mechanisms.

3. Graduates will demonstrate the diagnoses, disassembly, reassembly and adjusting of chronograph movements.

Watchmaking Certificate

Program Requirements

Course		Cr
WMCM 2300	Watchmaking - Calendar	5
WMCM 2301	Watchmaking - Automatic	5
WMCM 2302	Watchmaking - Quartz	5
WMCM 2303	Watchmaking - Precision Timing	5
WMCM 2304	Watchmaking - Chronograph	5
WMCM 2305	Watchmaking - Capstone/Career Prep	5
	Total Program Requirements	**30**
	Optional Electives:	
	WMCM 1480 Horological Lab 1	3
	WMCM 1580 Horological Lab 2	3
	WMCM 2480 Horological Lab 3	3

Clockmaking

Program Overview

The Clockmaking Certificate Program offers preparation for students to develop skills and knowledge needed for clock repair. The Clockmaking Certificate includes learning basic repair techniques using tools specific to clock repair, assessing needed repairs, estimating costs to repair clocks, using lathes and making tools and parts.

Career Opportunities

Graduates obtain employment in repair shops or start their own independent repair business. Demand for trained individuals remains due to the number of clocks people own and collect. Antique pieces are particularly valued and require repair.

Program Outcomes

1. Graduates will have knowledge and skills in clockmaking.

2. Graduates will demonstrate skills in clockmaking and repair via simulations.

3. Graduates will be prepared for employment in clockmaking and repair.

Clockmaking Certificate

Program Requirements

Course		Cr
WMCM 1202	Turning 1	5
WMCM 2510	Basic Clock Repair	4
WMCM 2511	Basic Clock Benchwork	3
WMCM 2512	Introduction to Clock Escapements	3
WMCM 2530	Westminster Chime Clock Repair	3
	Subtotal	**18**
	General Education Requirements	**3**
Select 8 credits from the following Electives		8
WMCM 1203	Turning 2	5
WMCM 2531	Antique & European Clock Repair	4
WMCM 2532	Cuckoo Clock Repair	3
WMCM 2535	Repair of Specialty Clocks	3
	Total Program Requirements	**29**
	Optional Electives:	
	WMCM 1480 Horological Lab 1	3
	WMCM 1580 Horological Lab 2	3
	WMCM 2480 Horological Lab 3	3

Intensive English Program
(English-as-a-Second-Language)

Programs

Intensive English Program
(English-as-a-Second-Language)

Overview

Intensive English Program (English-as-a-Second-Language) courses are designed to assist limited English speakers from different ethnic and cultural backgrounds to succeed in the community and technical system as well as in the transfer curriculum. Applicants interested in information may contact 651.846.1555.

Intensive English Program courses at various levels prepare students to enroll in major programs or transfer curriculum. It is an intensive program allowing students to be in class up to five hours per day. Courses include listening, speaking, reading, writing, as well as grammar and pronunciation. Advanced ESL students may take developmental courses related to their major field.

Prospective students interested in enrolling in Intensive English Program classes must take the English language proficiency exams. Call 651.846.1555 for a testing schedule. The exams assess understanding of English grammar structures, listening comprehension and in some cases a writing sample may be required. Students accepted into Intensive English Program classes must have a high school diploma, a GED, or pass "Ability to Benefit" tests.

Program Outcomes

1. Enter a major program or transfer curriculum.
2. Apply writing and critical thinking skills.
3. Demonstrate fluency in a variety of contexts.
4. Demonstrate active listening.
5. Speak clearly using correct pronunciation.
6. Demonstrate organization and study skills.
7. Understand concepts of grammar to facilitate other skills.
8. Understand American culture and work ethic.

Intensive English Program Courses

(English-as-a-Second-Language)

Course		Cr
COMM 0806	Speaking/Listening Skills/ESL 3	3
COMM 0807	Reading/Writing Skills/ESL 3	3
COMM 0808	Intermediate Grammar/ESL	3
COMM 0809	Speaking/Listening Skills/ESL 4	3
COMM 0810	Reading/Writing Skills/ESL 4	3
COMM 0811	Speaking/Listening Skills/ESL 5	3
COMM 0812	Reading/Writing Skills/ESL 5	3
COMM 0813	Advanced Grammar/ESL	3
COMM 0814	Speaking/Listening Skills/ESL 6	3
COMM 0815	Reading/Writing Skills/ESL 6	3
COMM 0820	Pronunciation and Articulation	1
COMM 0831	Advanced ESL	3

Liberal Arts and Sciences Departments and Courses

Programs

Saint Paul College reserves the right to change without notice any of the materials
(information, requirements, regulations) published in this document. This publication is not a contract.

Liberal Arts and Sciences

The Liberal Arts and Sciences division of Saint Paul College encompasses English and Speech, Fine Arts and Humanities, Social and Behavioral Sciences, Natural Sciences and Mathematics. These areas provide the foundation of academic study for students enrolled in AA, AS, and AAS degree programs. Carrying out the Minnesota Transfer Curriculum ten goal requirements and outcomes, the broad-base general education courses in liberal arts and sciences prepare students to think critically and use logic and scientific inquiry to question and solve problems, understand and appreciate diverse cultures, express thoughts, and communicate knowledge effectively. The faculty are committed to excellent teaching with a student-centered focus in traditional and on-line course offerings.

Educational Degree Programs

- Associate in Arts Degree in Liberal Arts and Sciences
- Associate in Science Degree
- Associate in Applied Science Degree

Anthropology

Program Overview

The Anthropology department offers courses that cover human nature and society in a global context. Students are exposed to the biological and cultural evolution of our species and the cultural worlds past, present and future. Forces which have shaped us and which we continuously shape are discussed within local, national and global perspectives. Students are encouraged to critically assess as well as celebrate the cultural diversity of our world. Traditional and on-line courses are available.

Course		Cr
ANTH 1710	Introduction to Cultural Anthropology (traditional and on-line sections available)	4
ANTH 1720	Physical Anthropology	4
ANTH 1790	Special Topics in Anthropology	3

Art

Program Overview

Art courses are designed to provide the highest quality coursework for students majoring in art as well as students who are interested in exploring their creative expression through the creation of artwork in a studio class or the study of art in a historical context. Our art coursework provides students with a richer understanding of the world and themselves. Our instructors possess the highest credentials in their field

and are committed to excellence in teaching and scholarship. The fine art and humanities department offers a large variety of studio and art history coursework that transfers towards a Major in Art or Art History at a four-year institution.

Students who plan on majoring in Art at a four-year institution should include Art History, Studio Art and Humanities coursework in order to be prepared for upper division work in whatever area of art they may choose for their area of concentration.

Art and Art History classes also fulfill requirements for the Minnesota Transfer Curriculum, as well as for College and program graduation requirements.

Course		Cr
ART 1710	Fundamentals of Photography 1	3
ART 1711	Fundamentals of Photography 2	3
ART 1712	Fundamentals of Photography 3	3
ART 1720	Art Appreciation	3
ART 1730	Drawing 1	3
ART 1731	Drawing 2	3
ART 1740	Introduction to Painting	3
ART 1760	World Art	3
ART 1770	American Art	3
ART 1790	History of Photography (traditional and online sections available)	3

Biology

Program Overview

The Biology department provides high quality educational experiences in the biological sciences including: environmental science, general biology (cell structure and function and survey of plants and animals), biology of women, microbiology, human anatomy and physiology, nutrition, medical terminology and a course that explores contemporary issues in human biology.

The faculty believe biology occupies a central position in the physical sciences and that an understanding of fundamental biological principles enables students to make better-informed decisions for work and life roles. The Biology faculty promote active learning in lecture and lab activities interacting closely with students at various levels of academic development.

Biology courses serve the College and students by providing offerings that satisfy requirements for general education, allied health and pre-professional transfer programs. Biology faculty are committed to excellence in teaching and scholarship offering traditional and online courses and providing a variety of lab/field experiences and online applications.

Course		Cr
BIOL 1725	Environmental Science (traditional and online sections)	4
BIOL 1730	Human Body Systems	3
BIOL 1740	General Biology 1: The Living Cell	5
BIOL 1745	General Biology 2: The Living World	5
BIOL 1750	General Microbiology	4
BIOL 1760	Nutrition (traditional and online sections)	3
BIOL 1771	Medical Terminology 1	1
BIOL 1772	Medical Terminology 2	1
BIOL 1780	Contemporary Issues in Human Biology	3
BIOL 1785	Biology of Women	3
BIOL 2721	Human Anatomy and Physiology 1	4
BIOL 2722	Human Anatomy and Physiology 2	4

Chemistry

Program Overview

The Chemistry Department offers courses that provide an understanding of chemical principles across the discipline.

The chemistry faculty believe that an understanding of fundamental chemical principles enables students to make better-informed decisions on a wide variety of issues related to work and life roles. The Chemistry faculty interact closely with students, a diverse population at various levels of academic development, to help them develop capabilities in science and become lifelong learners.

Chemistry courses serve the College and students by providing offerings that satisfy requirements for general education, allied health and pre-professional transfer programs.

Course		Cr
CHEM 1700	Chemistry Concepts	4
CHEM 1711	Principles of Chemistry 1	4
CHEM 1712	Principles of Chemistry 2	4

Economics

Program Overview

The Economics Department offers courses to help students learn and apply the economic principles necessary to become better informed citizens. The coursework provides preparation for degrees in Business, Accounting and other Pre-professional and Liberal Arts areas.

Course		Cr
ECON 1710	Introduction to the American Economy	3
ECON 1720	Macroeconomics	3
ECON 1730	Microeconomics	3

English

Program Overview

The English and Communications faculty are dedicated to helping students apply the knowledge and skills gained through the study of writing and literature to successfully communicate in work and life roles. Two levels of developmental writing courses are available. The department offers a wide selection of transferable general education courses including Composition 1 and 2 and literature courses including the Survey of American Literature, The English Novel, Native American and African American Literature and an Introduction to Poetry. Students planning to transfer to a four-year degree generally enroll in Composition courses and one or two related electives as they fulfill requirements for the Associate in Arts, Associate in Science and Associate in Applied Science degrees.

Course		Cr
COMM 1410	Fundamentals of Writing 1	4
COMM 1415	Fundamentals of Writing 2	4
COMM 1460	Applied Interpersonal Communications	3
COMM 1510	Customer & Occupational Relations	3
ENGL 1711	Composition1	4
ENGL 1712	Composition 2	2
ENGL 1780	Recently Arrived—Contemporary Immigrant Literature	3
ENGL 1790	Contemporary Writers of Color	3
ENGL 2721	Survey of American Literature 1	3
ENGL 2722	Survey of American Literature 2	3
ENGL 2730	Post-Civil War American Novel	3
ENGL 2740	Native American Literature	3
ENGL 2750	African American Literature	3
ENGL 2760	English Novel	3
ENGL 2770	Introduction to Poetry	3

Geography

Program Overview

The College offers a Global Economic Geography course to fulfill general education requirements. The department will be expanding and adding new courses to the curriculum.

Course		Cr
GEOG 1730	Global Economic Geography	3

History

Program Overview

The History Department promotes the study, teaching and analysis of historical developments which have created our present world. The historical past is studied so that students can better fulfill their work and life roles.

The department offers basic survey courses in American history and the history of world civilizations, although students are not required to take these courses in chronological order. In addition to survey courses, a course in Minnesota history is offered emphasizing the social, political, cultural and economic history of the state as well as a course on immigration and the ethnic history of the United States. The department has recently introduced a new course on the history of women in the United States.

Students who plan on majoring in History at a four-year institution are encouraged to take both the American and world history survey courses in order to be well-prepared for upper division coursework. History courses fulfill a number of requirements for the Minnesota Transfer Curriculum, as well as for graduation requirements.

Course		Cr
HIST 1730	Contemporary World History	3
HIST 1741	U.S. History 1: to 1865	3
HIST 1742	U.S. History 2: from 1865 to the Present	3
HIST 1750	Minnesota History	3
HIST 1760	History of World Civilizations to 1500	3
HIST 1761	History of World Civilizations since 1500	3
HIST 1770	History of Women in the United States	3
HIST 2740	Immigration and Ethnic History of the United States	3

Humanities

Program Overview

Humanities courses promote the study of cultural developments. Students gain an increased understanding of the world they live in, how it came to be as it is, and what their place is in it. Students will be asked to consider how they can apply what they have learned about what has come before to what might occur in the future. Humanities is an interdisciplinary subject in that it is an exploration of the influence particular fields have on each other; for example, the influence of political movements on visual art, or the influence of religion on poetry of the same period. The fields included in the Humanities are: art, history, literature, philosophy, religion, politics, law, music, drama and language. Students are encouraged to make comparisons between different fields and different time periods and to consider the significance of similarities and differences.

Humanities courses fulfill Minnesota Transfer Curriculum requirements and College degree program requirements.

Course		Cr
HUMA 1710	The Art of Being Human: An introduction to the Humanities	4
HUMA 1720	The Ancient & Medieval World	4
HUMA 1730	The Modern World	4
HUMA 1750	Culture and Civilization: Spanish Speaking Cultures	3
HUMA 1770	The Art of Film	3
HUMA 1780	American Film	3
HUMA 1790	International Film	3

Mathematics

Program Overview

The study of mathematics provides foundational knowledge for understanding other disciplines, as well as logical reasoning and problem solving skills for work and life roles. The department offers a full curriculum to meet the educational needs of our students such as developmental offerings, mathematics courses specific to majors and a range of general education courses including Statistics, Liberal Arts Math, College Algebra, Pre-Calculus, Calculus 1 and 2. Courses fulfill Minnesota Transfer Curriculum Goal requirements for the Associate in Arts, Associate in Science and Associate in Applied Science degrees.

Course		Cr
MATH 0741	Math Fundamental 1	3
MATH 0742	Math Fundamentals 2	3
MATH 0750	Developmental Algebra	3
MATH 1411	Applied Mathematics	3
MATH 1420	Trade Algebra and Trigonometry	3
MATH 1510	Introductory Algebra	3
MATH 1520	Intermediate Algebra	3
MATH 1710	Liberal Arts Mathematics	3
MATH 1730	College Algebra	3
MATH 1740	Introduction to Statistics	4
MATH 1760	Pre-Calculus	4
MATH 2751	Calculus 1	5
MATH 2752	Calculus 2	5

Natural Sciences

Program Overview

The Natural Sciences department offers courses across the curriculum in the areas of earth science, physical geology, oceanography, meteorology, descriptive astronomy and an introduction to energy and the environment and natural disasters. Natural Science courses fulfill Goals 3 & 10 of the Minnesota Transfer Curriculum, as well as for graduation requirements in a number of program majors.

Course		Cr
NCSI 1710	Earth Science	3
NCSI 1720	Physical Geology	3
NCSI 1730	Introduction to Oceanography	3
NCSI 1740	Introduction to Meteorology	3
NCSI 1750	Natural Disasters	3
NCSI 1760	Descriptive Astronomy	
NCSI 1770	Introduction to Energy and the Environment	3

Philosophy

Program Overview

Philosophy, literally, is the love of wisdom. It is the search for truth and the asking of fundamental questions about our existence, and relationship with the world and interaction with others. Philosophy includes the study of arguments, and the providing of evidence and reasons for making particular claims. The practice of philosophy teaches critical thinking and careful reflection; all courses encourage students to formulate pertinent questions and examine and create arguments. It is hoped that students will continue to use careful reasoning skills honed in philosophy classes as they continue in their education and in life. Areas of concentration within philosophy include logic, ethics, religion and the theory of knowledge.

Philosophy is helpful for careers in law, teaching, business, medicine and many other fields. Philosophy courses fulfill a number of requirements for the Minnesota Transfer Curriculum and college degree program requirements.

Course		Cr
PHIL 1700	Introduction to Philosophy	3
PHIL 1710	Logic	3
PHIL 1720	Ethics	3
PHIL 1750	Eastern Philosophy	3
PHIL 1760	World Religions	3

Physics

Program Overview

The department offers an introductory level physics course as well as General Physics 1 and 2 with a calculus base. Students enroll in physics courses to fulfill Minnesota Transfer Curriculum goal requirements for the Associate in Arts degree and for pre-major transfer options and Associate in Science or Associate in Applied Science degree requirements.

Course		Cr
PHYS 1720	Introductory Physics	4
PHYS 2700	General Physics 1 (with Calculus)	5
PHYS 2710	General Physics 2 (with Calculus)	5

Political Science

Program Overview

The Political Science faculty prepare students for involved citizenry and an understanding of the fundamentals of political systems. The department offers introductory courses in American government and introduction to politics. The department is expanding and new courses will be added to the curriculum. Students enroll in political science courses to fulfill Minnesota Transfer Curriculum goal requirements for the Associate in Arts degree and for pre-major transfer options and Associate in Science or Associate in Applied Science degree requirements.

Course		Cr
POLS 1720	Introduction to American Government	3
POLS 1750	Introduction to Politics	3

Psychology

Program Overview

Psychology is the scientific inquiry into human behavior and mental processes explaining the complexity of issues from both an environmental and biological perspective. Courses are offered that provide a foundation in core psychological areas. Students enroll in psychology to get a better understanding of human behavior in a variety of settings as well as for relevant preparation for nursing, business and other fields. Psychology courses fulfill the Minnesota Transfer Curriculum goal requirements for the Associate in Arts degree and for pre-major requirements for the Associate in Science and Associate in Applied Science degrees. Courses are offered in traditional classroom and online formats.

Course		Cr
PSYC 1710	General Psychology	4
PSYC 1720	Psychology Throughout the Lifespan	3
PSYC 1730	Introduction to Child Psychology	3
PSYC 1740	Abnormal Psychology	4
PSYC 1750	Introduction to Health Psychology	3

Sociology

Program Overview

The Sociology faculty strive to promote social awareness, active citizenry and critical thinking within and beyond our own culture. Courses are designed to emphasize the importance of the sociological perspective in work and life roles in a global world. Many students take Sociology courses to develop personal skills and to learn about other cultures and societies.

Students enroll in Sociology courses to fulfill Minnesota Transfer Curriculum goal requirements for the Associate in Arts degree and for pre-major transfer options and Associate in Science or Associate in Applied Science degrees.

Course		Cr
SOCI 1710	Introduction to Sociology	4
SOCI 1720	Social Issues in a Changing World	3
SOCI 1730	Sociology of Families and Relationships	3
SOCI 1740	Making a Living in a Global Era: Sociology of Work	3
SOCI 1760	Mass Media and Society	4
SOCI 1765	Sociology of Deviance	3
SOCI 1770	Social Problems in Modern America	3
SOCI 1780	Social Psychology	4
SOCI 1790	Special Topics in Sociology	3

Spanish

Program Overview

The main objective of the Spanish Department is two fold: to effectively build up crucial speaking, listening, reading and writing skills to achieve proficiency in Spanish and to gain the indispensable cultural knowledge and perspective for successful interactions. Applying a communicative approach to classroom situations and virtual trips, students acquire in a holistic way the grammatical and cultural tools they need to thrive with confidence in a multicultural environment.

The Spanish Department offers beginning and intermediate courses. Students with two years of high school Spanish are generally prepared for beginning courses while students with three or four years usually are ready to enter intermediate courses.

SPAN 1710 and SPAN 1720 (Beginning Spanish 1 & 2) may count as part of the 24 credit Pre-major electives for an AA degree. SPAN 1730 and SPAN 1740 (Intermediate Spanish 1 & 2) may be counted towards the 40 Minnesota Transfer Curriculum credits. Each program at Saint Paul College has different requirements. Talk to your advisor or a Transfer specialist in order to know if Spanish could be a possible general education elective option for you.

Spanish credits are also transferable to most two-and four-year institutions. Consult a Transfer Specialist for transfer information and Transfer Agreements to decide which Spanish courses to take at Saint Paul College.

Course		Cr
SPAN 1710	Beginning Spanish 1	5
SPAN 1720	Beginning Spanish 2	5
SPAN 1730	Intermediate Spanish	5
SPAN 1740	Intermediate Spanish 2	5

Speech

Program Overview

Rhetoric is where the study of Speech Communication began. As its definition, rhetoric refers to oratory or persuasive speaking. The Speech faculty promotes the study and application of human communication and mass communication concepts and skills for work and life roles. Students enroll in Speech courses to fulfill Minnesota Transfer Curriculum goal requirements for the Associate in Arts degree and for pre-major transfer options and Associate in Science or Associate in Applied Science degree requirements.

Course		Cr
SPCH 1700	Introduction to Speech Communications	3
SPCH 1710	Fundamentals of Public Speaking	3
SPCH 1720	Interpersonal Communication	3
SPCH 1730	Intercultural Communication	3
SPCH 1740	Mass Media and Communications	3
SPCH 1745	Mass Media Production Techniques	1
SPCH 1750	Small Group Communication	3

Theatre

Program Overview

The College offers an Introduction to Theatre course to fulfill general education requirements. The department will be expanding and adding new courses to the curriculum.

Course		Cr
THTR 1710	Introduction to Theatre	3

Technical Programs

Programs

Chemical Technology

Chemical Laboratory Technician AAS Degree . . 65 credits

Chemical Laboratory Technician AAS Degree

Program Overview

Chemical laboratory technicians team with scientists in the laboratory to study and develop new chemical processes and materials to meet society's changing needs. They operate laboratory equipment, set up apparatuses for chemical reactions, conduct experiments, handle materials, prepare compounds, collect samples and conduct analysis that evaluate product quality and consistency. They often contribute to the design of experiments. Much of their work involves measuring properties of materials used and produced in chemical reactions. In addition, they record and report experimental results; write technical reports; and make sure processes are carried out safely, cost-effectively and according to the highest professional standards. Chemical laboratory technicians work with their hands, think analytically, pay attention to details and solve problems. They play a critical role in all aspects of the chemical process industry and they are highly skilled scientific professionals with increasing responsibility.

Career Opportunities

Chemical technicians work with chemists and chemical engineers, developing and using chemicals and related products and equipment. Generally, there are two types of chemical technicians who work in experimental laboratories and process control technicians who work in manufacturing or other industrial plants. Many research and development chemical technicians conduct a variety of laboratory procedures, from routine process control to complex research projects. Most process technicians work in manufacturing, where they test packaging for design, integrity of materials and environmental acceptability. Process technicians who work in plants also focus on quality assurance. A few work in shipping to provide technical support and expertise.

Program Outcomes

1. Graduates will generate reproducible and accurate data using correctly applied mathematical methods.

2. Graduates will be able to design and conduct experiments using experimental design.

3. Graduates will perform chemical and instrumental analysis to qualitatively and quantitatively evaluate chemical and physical properties of materials.

4. Graduates will be able to accurately report and interpret chemical data.

5. Graduates will communicate information accurately using chemical technology terminology in verbal and written technical reports.

6. Graduates will have the knowledge to work proficiently with laboratory computers and software.

7. Graduates will be able to conduct laboratory operations safely and in accordance with federal, state and local regulations.

8. Graduates will have the knowledge to manage laboratory operations in accordance with current good laboratory practices (cGLP).

9. Graduates will have the knowledge to research chemical information using databases and technical literature.

10. Graduates will apply chemical technology in industry through an internship.

11. Graduates will plan a career path as a chemical technician through industry knowledge.

12. Graduates will demonstrate knowledge of chemical theory supporting laboratory methods.

Program Requirements

Course		Cr
CHEM 1711	Principles of Chemistry 1	4
CHEM 1712	Principles of Chemistry 2	4
CHMT 1500	Chemical Laboratory Safety	2
CHMT 1595	Chemical Technician Seminar	2
CHMT 1700	Introduction to Analytical Chemistry	4
CHMT 1790	Environmental Rules & Regulations	2
CHMT 2560	Laboratory Basic Skills	2
CHMT 2590	Chemical Laboratory Internship	3
CHMT 2600	Organic and Brochemical Analysis Methods and Applications	4
CHMT 2610	Chemical Analysis and Chromatography Methods	4
CHMT 2700	Inorganic Chemical and Quantitative Analysis Methods and Applications	4
CHMT 2710	UV-Visible Absorption and Emission Spectroscopy and Thermal Analysis	4
CHMT 2800	Hazardous Materials & Fire	2
CHMT 2895	Chemical Technician Advanced Seminar	2
Subtotal		**45**
General Education Requirements		**20**
(Select at least 20 credits of General Education according to the Requirements below)		
Total Program Requirements		**65**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   **7**

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Intro to Speech
> Communications – 3 cr OR
> SPCH 1710 Fundamentals of
> Public Speaking – 3 cr OR
> SPCH 1720 Interpersonal
> Communication – 3 cr OR
> SPCH 1730 Intercultural
> Communication – 3cr OR
> SPCH 1750 Small Group
> Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   **4**

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

MATH 1740 Intro to Statistics – 4 cr

Select a minimum of 3 credits from Goal 5   **3**

> Goal 5: History, Social Science and
>   Behavioral Sciences

Select a minimum of 3 credits from Goal 6   **3**

> Goal 6: Humanities and Fine Arts

Select a minimum of 3 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   **3**

*Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Electronic Nanotechnology

Electronic Nanotechnology AAS . . . . 71 Credits

Program Overview

The Electronic Nanotechnology AAS degree works in cooperation with the University of Minnesota. Students complete the first year curriculum of the Electronics Program, identified math and science courses, and then enter the capstone experience of 16 credits at the University of Minnesota. University of Minnesota instructors teach the capston courses and students use of the Fabrication and Characterization laboratories. The University of Minnesota courses transferred into the Saint Paul College program.

Career Opportunities

Nanotechnology is the manipulation and characterization of materials at the atomic level. This level is 10,000 times smaller than a human hair and is thought to be the lowest level at which matter can be manipulated. Electronics has been the major impetus in the development of Nanotechnology advancements and Nanotechnology will be the driving force in the future of semiconductors.

Nanotechnology is an exciting growth industry with many expanding opportunities for years to come. This technology can be used in a number of fields including electronics, biology, medicine and manufacturing. The National Science Foundation estimates that the Nanotechnology industry could grow to $1 trillion worldwide in the span of 15 years. Career opportunities will be initially found in Government and Corporate research facilities as well as startup companies. Jobs will entail assisting scientists and engineers in development and characterization of devices and procedures at the nano scale. A work force will also be needed by companies designing and manufacturing equipment and facilities that support the nanotech industry.

Program Outcomes

1. Graduates will have a thorough understanding of DC & AC theory and operating concepts.

2. Graduates will have knowledge and skills of Solid State circuitry.

3. Graduates will have an understanding of digital components and their applications.

4. Graduates will demonstrate the use and application of test equipment.

5. Graduates will demonstrate appropriate clean room procedures and safety.

6. Graduates will demonstrate Nanofabrication methods and techniques.

7. Graduates will have knowledge and skills of Nanostructure measurement and characterization.

Program Requirements

Course		Cr
ELEC 1410	DC Theory	2
ELEC 1411	DC Lab	2
ELEC 1420	AC Theory	2
ELEC 1422	AC Lab/AAS	2
ELEC 1430	Solid State Theory	2
ELEC 1431	Solid State Lab	3
ELEC 1510	Digital Logic 1 Theory	2
ELEC 1511	Digital Logic 1 Lab	2
ELEC 1512	Digital Logic 2 Theory	2
ELEC 1514	Digital Logic 2 Lab/AAS	2
ELEC 1530	Advanced Solid State Theory	2
ELEC 1531	Advanced Solid State Lab	3
	Subtotal	**26**
	General Education Requirements	**29**
	Total Saint Paul College Requirements	**55**

AAS Degree General Education Requirements*   29 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication	
ENGL 1711 Composition 1 – 4 cr	
SPCH 1700 Intro to Speech – 3 cr **OR**	
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**	
SPCH 1720 Interpersonal Communication – 3 cr **OR**	
SPCH 1730 Intercultural Communication – 3cr **OR**	
SPCH 1750 Small Group Communication – 3 cr	

Select a minimum of 3 credits from Goal 3 or Goal 4	16
Goal 3: Natural Sciences	
Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science, and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	

* Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

The following General Education Courses are required for the Electronic Nanotechnology AAS:

MATH 1730	College Algebra	3
CHEM 1700	Chemistry Concepts	4
PHYS 1720	Introductory Physics	4
BIOL 1740	General Biology 1	5

Capstone at the University of Minnesota

MT 3111	Elements of Microelectronic Manufacturing	3
MT 3112	Elements of Micro and Nano Manufacturing Lab	1
MT 3121	Thin Film Deposition	4
MT 3131	Intro to Materials Characterization	3
MT 3132	Materials Characterization Lab	1
MT 3141	Principles/Apps. of Bionanotechnology	3
MT 3142	Nanoparticles and Biotechnology Lab	1
	Subtotal	**16**
	Total Program Requirements	**71**

Computer Literacy Skills – the student must be able to send and receive e-mails, search the Internet, create spreadsheets and use word processing software.

Electronic Technology

Electronic Technology AAS Degree	72 Credits
Electronic Technology Diploma	66 Credits

Program Overview

The jobs performed by an Electronic Technician cover a wide spectrum of challenging analog and digital tasks. The work consists of preventative maintenance, servicing, troubleshooting and repairing computers, electronic office equipment, networks, communications equipment and consumer electronics equipment. Technicians will also be expected to write repair reports, manage parts inventory, implement customer billing and develop a good business relationship with customers.

Students must be highly motivated and have the desire to solve problems. Normal color vision, manual dexterity and the ability to relate printed diagrams to physical components are helpful.

Students enrolled in an AAS degree will be expected to have or obtain knowledge in the following areas: Boolean algebra, right angle trigonometry, computer operating systems (DOS/Windows) and computer applications (word processing, spreadsheet, and database).

Career Opportunities

Technical careers have been identified as the fastest growing segment of the job market and electronic technicians will be in demand. The number of job opportunities in Electronic Technology will continue to expand well into the 21st century. Current electronic equipment and the introduction of state-of-the-art equipment in the areas of business, industry and consumer electronics will ensure an increasing demand for qualified Electronic Technicians.

Technicians will be hired by companies to repair the company's own equipment or hired by companies as field service technicians. Companies that employ Electronic Technicians typically offer good salaries and benefits as well opportunities to advance.

> Articulation Agreements:
> University of Wisconsin, Stout
> BS in Industrial Management
> Metropolitan State University,
> BAS in Industrial Management
> Minnesota State University, Mankato,
> BS in Electronic Engineering Technology

The Electronic Technology AAS degree and Diploma programs at Saint Paul College have been approved and certified by the Federal Aviation Administration (FAA). This partnership allows qualified students the possibility of part-time work while pursuing their studies as well as full-time employment.

Program Outcomes

1. Graduates will have a thorough understanding of DC & AC theory and operating concepts.

2. Graduates will have knowledge and skills of Solid State circuitry.

3. Graduates will have understanding of digital components and their applications.

4. Graduates will have understanding of and the skills for microprocessor operation and application.

5. Graduates will have the understanding of and the skills for service, testing and repair of personal computer systems and computer peripherals.

6. Graduates will have the understanding of and the skills in linear devices and associated circuitry.

7. Graduates will have the understanding of and the skills in interface circuitry and systems.

Electronic Technology AAS Degree

Program Requirements

Course		Cr
ELEC 1410	DC Theory	2
ELEC 1411	DC Lab	2
ELEC 1420	AC Theory	2
ELEC 1422	AC Lab/AAS	2
ELEC 1430	Solid State Theory	2
ELEC 1431	Solid State Lab	3
ELEC 1510	Digital Logic 1 Theory	2
ELEC 1511	Digital Logic 1 Lab	2
ELEC 1512	Digital Logic 2 Theory	2
ELEC 1514	Digital Logic 2 Lab/AAS	2
ELEC 1530	Advanced Solid State Theory	2
ELEC 1531	Advanced Solid State Lab	3
ELEC 2410	Personal Computer Service & Repair Theory	3
ELEC 2412	Personal Computer Service & Repair Lab/AAS	3
ELEC 2510	Linear Devices Theory	3
ELEC 2511	Linear Devices Lab	4
ELEC 2520	Interfacing Theory	3

ELEC 2521	Interfacing Lab	4
ELEC 2530	Microprocessor Theory	3
ELEC 2532	Microprocessor Lab/AAS	3
	Subtotal	**52**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

Electronic Technology AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr OR
SPCH 1710 Fundamentals of Public Speaking – 3 cr OR
SPCH 1720 Interpersonal Communication – 3 cr OR
SPCH 1730 Intercultural Communication – 3 cr OR
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4	3

Goal 3: Natural Sciences
Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5	3

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6	3

Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Electronic Technology Diploma

Program Requirements

Course		Cr
ELEC 1410	DC Theory	2
ELEC 1411	DC Lab	2
ELEC 1420	AC Theory	2
ELEC 1421	AC Lab	3
ELEC 1430	Solid State Theory	2
ELEC 1431	Solid State Lab	3
ELEC 1440	Electronic Circuit Analysis	2
ELEC 1510	Digital Logic 1 Theory	2
ELEC 1511	Digital Logic 1 Lab	2
ELEC 1512	Digital Logic 2 Theory	2
ELEC 1513	Digital Logic 2 Lab	3
ELEC 1530	Advanced Solid State Theory	2
ELEC 1531	Advanced Solid State Lab	3
ELEC 2400	Computer Fundamentals & Troubleshooting	3

ELEC 2410	Personal Computer Service & Repair Theory	3
ELEC 2411	Personal Computer Service & Repair Lab	4
ELEC 2430	Computer Operating Systems & Programming	2
ELEC 2510	Linear Devices Theory	3
ELEC 2511	Linear Devices Lab	4
ELEC 2520	Interfacing Theory	3
ELEC 2521	Interfacing Lab	4
ELEC 2530	Microprocessor Theory	3
ELEC 2531	Microprocessor Lab	4
	General Education Requirements	**3**
	Total Program Requirements	**66**

Energy Process Technology

Energy Process Technology AAS Degree . . . . . 65 Credits
Energy Technician Advanced Technical
        Certificate. . . . . 20 Credits

Program Overview

The Energy Process Technology Program is designed to develop the student's knowledge and skills in the process and power industry. The program identifies the processes, equipment, systems and information needed to obtain employment in a power generating facility.

Career Opportunities

Graduates may be employed as General Plant Helpers, Plant Technicians, Plant Specialists and Boiler Operators in electric generating plants, large manufacturing companies and other plants or institutions that operate large boilers. Minnesota industries, such as Xcel Energy, Great River Energy, District Energy and other power generating companies anticipate a severe shortage of qualified technicians, as current technicians retire.

Program Outcomes

1. Describe the operation of pumps, compressors, turbines, piping and tubing in terms of fluid flow principles, design, construction and prime movers.

2. Demonstrate the use of measuring tools associated with mechanical repair, including personal computers and instrumentation.

3. Describe the principles of fluid power, pump inlet factors, hydraulic fluid and ANSI/ISO symbols.

4. Demonstrate the safe use of a variety of hand tools commonly associated with mechanical repair, metallurgy, shop machines and system diagrams.

5. Recognize the basic purpose, structure and operation of a plant system, including boiler and auxiliary equipment, combustion, condensers and circulating water.

6. Demonstrate knowledge of the systems that make up a power plant through hands-on experience at a fossil simulator.

7. Demonstrate knowledge of what OSHA, EPA and other regulations are and how they impact the industry.

8. Identify various types of valves, gaskets, lubrication, bearings, couplings, gears, chains, v-belts and rigging and explain their functions.

9. Apply mathematics, including basic math, geometry and elementary algebra to solve real-life problems.

10. Understand the theories and concepts necessary for basic oxy-acetylene welding, cutting and brazing processes.

11. Understand how automatic systems control plant processes.

12. Demonstrate basic knowledge of the operation and use of Gas Turbines and Diesels and how voltage is produced, used and manipulated to do work in the refining industry.

13. Understand natural gas processing, chemistry and distillation principles and applications as related to the process industry.

Energy Process Technology AAS Degree

Program Requirements

Course		Cr
ENGY 1410	Pumps, Compressors and Turbines	3
ENGY 1420	Instrumentation and Measurement	3
ENGY 1510	Piping, Tubing and Steam Traps	3
ENGY 1520	Hydraulics	3
ENGY 1530	Equipment Repair	4
ENGY 2410	Energy Systems and Components	3
ENGY 2420	Energy Production	4
ENGY 2430	Boiler Engineer Licensing	2
ENGY 2510	Regulatory Compliance	3
ENGY 2520	Valves and Gaskets	2
INMM 1510	Lubrication, Bearings and Couplings	3
INMM 2520	Gears, Chains, V-Belts and Rigging	3
MATH 1411	Applied Mathematics	3
WELD 1410	Oxy-Acetylene, Cutting and Brazing	3
WELD 1420	SMAW E6013	3
	Subtotal	**45**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**65**

Process Plant Technology Emphasis**

PROP 231	Process Turbines and Diesels	1
PROP 233	Electrical Principles	2
PROP 235	Hydrocarbon Chemistry	3
PROP 237	Distillation and Refinery Operations	4
PROP 239	Gas Conversions	3
PROP 241	Process Plant Instrumentation	2
PROP 243	Process Instrumentation and Control	2

** Courses in the Process Plant Technology Emphasis can be taken online and transferred from Bismarck Community College (North Dakota).

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr OR
> SPCH 1710 Fundamentals of Public Speaking – 3 cr OR
> SPCH 1720 Interpersonal Communication – 3 cr OR
> SPCH 1730 Intercultural Communication – 3 cr OR
> SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science, & Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.   4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Energy Technician Advanced Technical Certificate

Program Requirements

Course		Cr
ENGY 1520	Hydraulics	3
ENGY 1530	Equipment Repair	4
ENGY 2420	Energy Production	4
INMM 1510	Lubrication, Bearings and Couplings	3
WELD 1410	Oxy-Acetylene Welding, Cutting and Brazing	3
WELD 1420	SMAW E6013	3
	Total Program Requirements	**20**

Geomatics (Land Surveying) and Mapping Sciences

Geomatics (Land Surveying) and Mapping Sciences
AS Degree . . . . 60 Credits
Geomatics Advanced Technical Certificate. . . . 30 Credits
Remote Sensing Advanced Tech. Certificate . . 10 Credits

Program Overview

Land Surveying (Geomatics or Geomatics Engineering) is the science, art and technology of locating relative positions on, above or below the surface of the earth.

First year students use surveying instruments such as levels and total stations and Global Positioning Systems (GPS) in the field and transfer data to CAD systems. Students work as technicians with engineers, geologists, land surveyors, geographer-cartographers and geographical information professionals on a variety of projects.

The Geomatics (Land Surveying) and Mapping Sciences Associate Degree program is fully articulated with the Bachelor of Science Degree in Land Surveying and Mapping Sciences at St. Cloud State University (SCSU). All the credits transfer to SCSU. Graduates from the BS degree may be qualified to take the Fundamentals of Land Surveying Examination after a minimum of three years in the field. Graduates of the AS degree program, having a bachelors degree also may qualify.

Career Opportunities

After the first year of study students can expect summer employment with city, county, state or federal government or with consulting engineering and surveying firms, contractors or cartographers. Often the summer experience continues as part-time employment during the second year of study and may result in permanent employment upon graduation. Others can expect a part-time career position while pursuing the Bachelor's Degree.

Historically, demand for graduates from this program far exceeds the number of graduates available.

Programs

Program Outcomes

1. Graduates will work with engineers, geologists, land surveyors, cartographers and geographic information systems professionals.

2. Graduates will have the skills and knowledge to work with civil engineers on design and construction projects.

3. Graduates will have knowledge and skills in Mapping (Cartography) and Geographical Information Systems (GIS).

4. Graduates may transfer all credits to the Land Surveying and Mapping Sciences Bachelor of Science Degree at St. Cloud State University.

5. Graduates from the BS degree, with additional experience, may qualify to take the Minnesota Licensed Land Surveyors examination.

Geomatics (Land Surveying) and Mapping Sciences AS Degree

Program Requirements

Course		Cr
CTEC 1415	Surveying Fundamentals	4
CTEC 1441*	Computer Aided Design 1	3
CTEC 1442	Computer Aided Design 2	3
CTEC 1515	Intermediate Surveying	4
CTEC 1535	Coordinate Geometry, Control Surveys, Boundary Surveys	3
CTEC 1591	Occupational Internship	3
CTEC 2520	Introduction to GPS/GIS	4
CTEC 2530	Hydrology and Hydraulics	3
CTEC 2550	Site Design	3
	Subtotal	**30**
	General Education Requirements (Select at least 30 credits of General Education according to the requirements listed below)	**30**
	Total Program Requirements	**60**

*To be successful in CTEC 1441, students who have not had experience with AutoCAD are encouraged to take CTEC 1390 AutoCAD for Geomatics before or concurrent with CTEC 1441 Computer Aided Design 1.

AS Degree General Education Requirements*   30 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
> SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal

Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4	3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning
> (MATH 1730 College Algebra is recommended during the first semester of the program)

Select a minimum of 4 credits from Goal 5	4

> Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6	3

> Goal 6: Humanities and Fine Arts

Select a minimum of 13 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	13

> Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Geomatics Advanced Technical Certificate

Program Requirements

Course		Cr
CTEC 1415	Surveying Fundamentals*	4
CTEC 1441	Computer Aided Design 1	3
CTEC 1442	Computer Aided Design 2	3
CTEC 1515	Intermediate Surveying	4
CTEC 1535	Coordinate Geometry, Control Surveys, Boundary Surveys	3
CTEC 1591	Occupational Internship	3
CTEC 2520	Introduction to GPS/GIS	4
CTEC 2530	Hydrology and Hydraulics	3
CTEC 2550	Site Design	3
*Math is a prerequisite		
	Total Program Requirements	**30**

Remote Sensing Advanced Technical Certificate

Program Requirements

Course		Cr
CTEC 2520	Introduction to GPS/GIS	4
CTEC 2545	Remote Sensing 1	3
CTEC 2546	Remote Sensing 2	3
	Total Program Requirements	**10**

Programs

Transportation, Construction and Building Programs

Programs

Appliance Field Service Technology

Appliance Field Service Technician Diploma. . . 38 Credits

Program Overview

Major appliance repairers service and maintain refrigeration, air-conditioning and electro-mechanical equipment. They also work with electrical components, motors, gearbox assembly, valves, switches, thermostats, timing controls, pressure regulators, manual controls, heaters and pressure systems. Students need to become adept at diagnosing electrical malfunctions, testing operations, checking electrical components and circuit-tracing schematics. Students learn cycle, valve and capacity testing as well as refrigeration theory, charging, recovery and system testing. EPA Refrigeration Certification is offered in the Summer Term for full-time students and is also offered several times per year in the evening.

Trainees should have mechanical aptitude, communication skills and good physical condition to be able to perform physical work.

Career Opportunities

Employment projections show a 34.6 percent increase in household appliance repairer occupations and a 12.2 percent increase in refrigeration mechanic occupations.

Graduates may be employed by a large corporation, a servicing firm, a small shop, or they may be self-employed. Those proficient in the field can advance to sales, customer relations, parts and equipment supervision, factory, service representation or service training. Usually, graduates are first employed in service-related areas, such as major appliance refrigeration/air-conditioning, vending machine, hotel and hospital equipment maintenance, manufacturer's equipment maintenance and testing.

Program Outcomes

1. Graduates will be able to calculate and build electrical circuits (series, parallel, and series-parallel).

2. Graduates will have the knowledge and skills to diagnose and repair major appliances.

3. Graduates will be proficient at reading electrical schematics and using them to diagnose electrical problems.

4. Graduates will have acquired supervised hands on experience in replacing parts in major appliances.

5. Certificate recipients will have the knowledge of the refrigeration process.

6. Certificate recipients will be proficient at soft soldering and hard soldering tubing used in refrigeration systems.

7. Certificate recipients will have the knowledge and skills to replace the compressor in a refrigeration system.

Appliance Field Service Technician Diploma

Program Requirements

Course		Cr
MAJR 1400	Major Appliance EPA Certificate Program Preparation	1
MAJR 1430	Refrigeration Introduction	4
MAJR 1450	Refrigeration Systems Service and Containment	3
MAJR 1441	Refrigeration Lab	5
MAJR 1451	Introduction to Electricity Theory and Practice	4
MATH 1411	Applied Mathematics	3
MAJR 1541	Major Appliance Electricity and Electronics	3
MAJR 1542	Wash Machine Systems, Diagnosis and Repair	3
MAJR 1545	Dryer Systems, Diagnosis and Repair	3
MAJR 1550	Cooking Equipment Systems, Gas, Steam and Electrical Diagnosis and Repair	4
MAJR 1555	Dishwashers Systems Diagnosis and Repair	2
MAJR 1560	Field Service communication Skills and Customer Relations	3
	Total Program Requirements	**38**

Auto Body Repair

Auto Body Repair Diploma . . . . 49 Credits
Auto Body Repair AAS . . . . 66 Credits

Program Overview

Auto body workers repair or replace automotive body and frame components. The job involves many skills including frame repair, welding and cutting, metal straightening, application of up-to-date body materials, metal finishings and painting and alignment of body components. Auto body repair workers also estimate damage and compute labor and material costs.

Students must read well enough to follow written instructions and comprehend technical information. They should know basic arithmetic in order to prepare paint and body material estimates and paint formulas. Physical requirements include good mechanical coordination, good eyesight (including color vision), average strength, good sense of feel and an ability to withstand dust, paint fumes and noise.

Career Opportunities

As the population increases so does the use of automobiles and the number of automobile accidents. The U.S. Department of Labor predicts that employment of auto body repair workers will continue to increase.

Employment is steady throughout the year. Graduates often enter an apprenticeship training program and work under an experienced journeyperson for a period of at least three years. The usual four-year apprenticeship term is shortened by vocational school experience. There are opportunities for advancement to estimator, adjuster, service manager, parts manager, or shop owner.

Program Outcomes

1. Graduates will have knowledge and skills in operating hand and power tools necessary in Auto Body Repair.

2. Graduates will have knowledge and skills in welding, cutting, straightening and replacement of parts on an automobile.

3. Graduates will have knowledge and skills in correct use and application of up to date materials used in auto body repairs.

4. Graduates will have knowledge and skills in assessing damage, writing a repair plan and ordering parts and materials.

5. Graduates will have supervised hands-on experience working on customer vehicles and doing real-world repairs.

6. Graduates will be prepared for entry-level employment in the auto body industry.

Auto Body Repair Diploma

Program Requirements

Course		Cr
ABDY 1400	Introduction to Auto Body Repair	3
ABDY 1410	Auto Body Sheet Metal Repair	3
ABDY 1420	Auto Body Repair Techniques	3
ABDY 1430	Introduction to Paint Prep	4
ABDY 1440	Advanced Body & Frame Repair Theory	2
ABDY 1450	Collision Repair, Estimating & Shop Management	2
ABDY 1510	Advanced Body & Frame Repair	3
ABDY 1520	Paint & Color Matching Techniques	4
ABDY 1530	Paint Finishing & Detailing	4
ABDY 1540	Auto Body Specialization Finishes	4
ABDY 1550	General Auto Body Detailing	4
ABDY 1560	Alignment & Brakes for Auto Body	2
ABDY 1570	Air Conditioning & Electric	3
ABDY 1581	Welding – Auto Body 1	2
ABDY 1582	Welding – Auto Body 2	3
	Subtotal	**46**
	General Education Requirement	**3**
	Total Program Requirements	**49**

Auto Body Repair AAS Degree

Program Requirements

Course		Cr
ABDY 1400	Introduction to Auto Body Repair	3
ABDY 1410	Auto Body Sheet Metal Repair	3
ABDY 1420	Auto Body Repair Techniques	3
ABDY 1430	Introduction to Paint Prep	4
ABDY 1440	Advanced Auto Body & Frame Repair Theory	2
ABDY 1450	Collision Repair, Estimating & Shop Management	2
ABDY 1460	Auto Body Open Lab (option)	4
ABDY 1510	Advanced Body & Frame Repair	3
ABDY 1520	Paint & Color Matching Techniques	4
ABDY 1530	Paint Finishing & Detailing	4
ABDY 1540	Auto Body Specialization Finishes	4
ABDY 1550	General Auto Body Detailing	4
ABDY 1560	Alignment & Brakes for Auto Body	2
ABDY 1570	Air Conditioning & Electric	3
ABDY 1581	Welding – Auto Body 1	2
ABDY 1582	Welding – Auto Body 2	3
	Subtotal	**46**
	General Education Requirements	**20**
	(Select at least 20 credits of General Education according to the Requirements listed below)	
	Total Program Requirements	**66**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7

Goal 1: Communication
    ENGL 1711 Composition 1 – 4 cr
    SPCH 1700 Intro to Speech – 3 cr **OR**
    SPCH 1710 Fundamentals of
    Public Speaking – 3 cr **OR**
    SPCH 1720 Interpersonal
    Communication – 3 cr **OR**
    SPCH 1730 Intercultural
    Communication – 3cr **OR**
    SPCH 1750 Small Group
    Communication – 3 cr	

Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences	
Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Automotive Service

Automotive Service Technician Diploma . . . . . . 64 Credits
Automotive Service Technician AAS . . . . 61 Credits

Program Overview

Automotive repair requires trained technicians skilled in the use of testing equipment, special tools and the latest information and specifications to service the many types of automobiles. Technicians diagnose trouble in any one of thousands of automotive components. They work with many new systems each year that require new service techniques and training. Some of these include air conditioning units, emission control devices, alternators, electronic ignition and electronic fuel injection.

Students are prepared to take the ASE certification tests when they have completed the program. ASE certifies technicians nation wide.

This program is NATEF (National Automotive Technical Education Foundation) certified.

Students should have good mechanical aptitude, be in good physical condition and have the ability to get along with others. To profit from the training offered, the students must read well enough to understand the technical information presented.

Career Opportunities

Opportunities are expected to be plentiful for automotive technicians with technical training according to the U.S. Department of Labor. The department also states that the growing complexity of automotive technology, such as the use of electronic and emissions control equipment increasingly necessitates that cars be serviced by professionals.

Many graduates are employed as indentured apprentices upon the satisfactory completion of the 18 month pre-apprenticeship course. The auto technician may work in a dealership garage, an independent garage, or as a specialist. Opportunities exist for a technician to advance into shop service sales person, new car dealership service manager, or shop owner.

Program Outcomes

1. Graduates will have knowledge and skills in use of testing equipment, special tools, and specifications for servicing automobiles.

2. Graduates will have the knowledge and skills to diagnose problems in automotive systems.

3. Graduates will have knowledge and skills to service automobile brakes, alignment, and suspension, manual transmission, four wheel drive and differentials, heating and air conditioning, starting and charging systems, electrical accessories, fuel systems and automatic transmissions.

4. Graduates will have acquired supervised hands-on experience working on customer vehicles.

5. Graduates will be prepared for employment as Automotive Service Technicians.

Automotive Service Technician Diploma

Program Overview

This program prepares technicians to perform automotive repairs on complex automobiles at the Master Technician level. Upon completion of the program students should qualify for the Master Technician designation by passing all 8 of the Automotive Service Excellence (ASE) tests. Program admission requirement is passage of 4 ASE tests. The program includes courses that ensure individuals have the necessary oral, written, and critical thinking skills to help them with supervisory and management responsibilities.

Program Outcomes

1. Graduates will be prepared to pass all 8 ASE tests (successful passage of 4 tests required for admission).

2. Graduates will have the skills to perform repairs on automobiles at a master technician level.

3. Graduates will have proficient communication skills for customer service.

4. Graduates will have business and management skills.

Program Requirements

Course		Cr
AUTO 1410	Trade Knowledge	3
AUTO 1420	General Auto Service	3
AUTO 1430	Brakes	4
AUTO 1440	Alignment & Suspension	5
AUTO 1510	Clutch/Driveline Manual Transmission	3
AUTO 1520	Four Wheel Drive & Differential	2
AUTO 1530	Basic Electrical & Battery	3
AUTO 1540	Basic Tune-Up	3
AUTO 1550	Heating & Air Conditioning	4
AUTO 2410	Starting/Charging Systems	3
AUTO 2420	Electrical Accessories	3
AUTO 2430	Engine Theory & Repair	4
AUTO 2440	Engine Installation	2
AUTO 2450	Introduction to Auto Computers	2
AUTO 2510	Fuel Systems	5
AUTO 2520	Engine Driveability	3
AUTO 2530	Automatic Transmission Theory	2
AUTO 2540	Automatic Trans. Diagnosis & Repair	3
AUTO 2550	Specialized Lab	2
MATH 1411	Applied Math	3
RWLD 1440	Introduction to Gas, Arc, & Mig Welding	2
	Total Program Requirements	**64**

Automotive Service Technician AAS Degree*

Program Requirements

Course		Cr
AUTO 2410	Starting & Charging Systems	3
AUTO 2420	Electrical Accessories	3
AUTO 2430	Engine Theory & Repair	4
AUTO 2440	Engine Installation	2
AUTO 2450	Intro to Auto Computers	2
AUTO 2510	Fuel Systems	5
AUTO 2520	Engine Driveability	3
AUTO 2530	Automatic Transmission Theory	2
AUTO 2540	Automatic Transmission Diagnosis & Repair	3
ACCT 1411	Principles of Accounting	4
BUSN 1410	Intro to Business	3
HMRS 2410	Employee/Labor Relations	3
ADMS 1421	Introduction to Microsoft Office Software	4
	Subtotal	**41**
	General Education Requirements	**20**
	Total Program Requirements	**61**

* Admission requires completion of the Auto Technician Diploma, or concurrent enrollment in the second year Auto Technician program. Also required is completion of 4 ASE tests.

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

> Goal 1: Communication
> ENGL 1711 Composition 1 – 4 cr
> SPCH 1700 Intro to Speech – 3 cr **OR**
> SPCH 1710 Fundamentals of
> Public Speaking – 3 cr **OR**
> SPCH 1720 Interpersonal
> Communication – 3 cr **OR**
> SPCH 1730 Intercultural
> Communication – 3cr **OR**
> SPCH 1750 Small Group
> Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

> Goal 3: Natural Sciences
> Goal 4: Mathematical/Logical Reasoning

Select a minimum of 3 credits from Goal 5   3

> Goal 5: History, Social Science and
> Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

> Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum   4

* Refer to the Minnesota Transfer Curriculum Course List for Specific course options.

Cabinetmaking

Cabinetmaking Diploma . . . . 35 Credits

Program Overview

Cabinetmakers are skilled in the phases of cabinet construction from the initial drafting and layout, to material cutting, assembly, finishing and installation. The principles used in building kitchen cabinets are also used in building store fixtures, furniture and all other types of woodworking. The program prepares students to work for cabinet manufacturers and custom cabinet shops.

Mathematics and drawing skills are helpful. Students need to be alert, physically fit and have good vision. Students are expected to attend all classes and be prompt. It is necessary to have good hand and eye coordination. Safety will be a major factor in operating all equipment. Safety is taught and students must pass all safety tests before operating equipment.

Career Opportunities

New construction in housing and industry and the renovation and modernization of existing structures are expected to increase the demand for cabinetmakers.

Cabinetmaking graduates find positions in kitchen cabinet shops, lumber companies, sash and door factories, store fixture manufacturers, display shops, wood specialty shops and furniture repair shops. Some graduates operate their own business.

Program Outcomes

1. Graduates will have acquired supervised hands-on experience building framed and manufactured cabinetry.

2. Graduates will have knowledge, skill and hands-on experience in the use of CAD/CAM software and CNC equipment.

3. Graduates will have knowledge, skill and hands-on experience with wood stains, finishes and finishing equipment.

4. Graduates will have knowledge, skill and hands-on experience in plastic laminate technology and fabrication.

5. Graduates will have acquired supervised hands-on experience in raised panel door layout, machinery set up and production.

6. Graduates will have the knowledge, skills and hands-on experience on the safe operation of woodworking equipment.

Cabinetmaking Diploma

Program Requirements

Course		Cr
CABT 1410	Blueprint Reading for Cabinetmaking	3
CABT 1415	Wood Technology	3
CABT 1420	Cabinet Shop Safety	3
CABT 1430	Framed Cabinetry	4
CABT 1511	Shaper Technology	3
MATH 1411	Applied Mathematics	3
CABT 2410	Laminates and Countertops	4
CABT 2430	Edgebanding and Boring Machines	4
CABT 2440	Frameless Cabinetry	4
CABT 2510	CAD/CAM/CNC	4
	Total Program Requirements	**35**

Carpentry

Carpentry Diploma. . . . . 42 Credits

Program Overview

Construction is the largest industry in terms of investment and manpower expended. Carpenters make up the largest trade group in the construction industry. They erect the wood framework in buildings; they install wood paneling, cabinets, door and window frames and hardware; and they build stairs and frame roofs. Carpenters work under a wide variety of conditions, indoors and out, in all types of weather. They use many different hand and power tools working with wood, concrete, metals, plastics and other construction materials.

Good work habits, mechanical aptitude and strong communication and math skills are necessary to become a successful carpenter. Carpenters must be able to climb, lift, carry, measure, calculate and plan their work. They often work at considerable heights.

Career Opportunities

Construction activity continues to be strong. Demand for quality carpenters exists in residential, commercial and heavy construction. Increased activity in infrastructure and building renovation has provided additional opportunities for carpenters.

Carpenters can be involved in the many different phases of a building project or choose to specialize in areas such as framing, drywall, acoustic ceilings, concrete form building, hardware and millwork. Many graduates continue their training by entering a formal apprentice program. Carpenter apprentices advance to journeyperson by working on the job and attending classes related to their work. Advancement can continue to lead carpenter, carpenter foreman and job superintendent. Carpenters are employed by a wide variety of construction contractors, or they may choose to become self-employed in their own business.

Program Outcomes

1. Graduates will have the knowledge and skills to safely use hand and portable power tools used by carpenters in the construction industry.

2. Graduates will be able to work with wood, plastics, concrete, metals, gypsum and various fiber composite products used by carpenters in the construction industry.

3. Graduates will have practiced procedures used by carpenters in framing layout, stair construction, wood and steel framing and installation of doors, windows and cabinets.

4. Graduates will be familiar with forming systems and types of scaffold used in concrete construction.

5. Graduates will be familiar with and have practiced job site safety requirements.

6. Graduates will be able to operate instruments and demonstrate procedures used in building layout.

7. Graduates will display effective work habits deemed necessary by employers.

8. Graduates will be prepared for entry level employment as carpenters and admission to the Carpenters Apprentice Training Program.

Carpentry Diploma

Program Requirements

Course		Cr
CARP 1410	Project Estimating	3
CARP 1420	Construction Blueprint Reading	2
CARP 1430	Intro to Carpentry & Hand Tools	3
CARP 1510	Intermediate Carpentry	5
CARP 1521	Building Technology	5
CARP 1522	Power Tool and Shop Procedures	5
CARP 2410	Advanced Carpentry	6
CARP 2421	Fieldwork and Carpentry Procedures	5
CARP 2422	Carpentry Concrete Technology and Installation	5
MATH 1411	Applied Mathematics	3
	Total Program Requirements	**42**

Construction Supervisor

Construction Supervisor AAS Degree. . . . . . . 72 Credits

Program Overview

This program is designed to provide educational opportunity for Building Trades Apprentices and Journeymen to become construction supervisors. The program will accept up to 20 credits from a Department of Labor approved Building Trades apprenticeship program. Core courses will cover knowledge and experience in key areas for supervisors. An internship is required of all students to experience the demands and complexities of the construction supervisor. There are capstone options to integrate the learning through simulations of supervisory work responsibilities, communication challenges and decision-making skills. One capstone is focused on the responsibilities of a supervisor working for a subcontractor and the other for a supervisor for a General Contractor.

Graduates from this program will have the opportunity to move from journey-level craft person to a construction supervisor. Saint Paul Building and Construction Trades Council estimates that there will be 3,000 new supervisor positions over the next 5 years. These would be either sub contractors or general contractors.

Program Outcomes

1. Graduates will have knowledge and hands-on experience with components of the construction industry: methods, materials and sequences of the construction process.

2. Graduates will be able to examine building codes and standards applicable to the building construction and inspection process and implement OSHA regulations, recognize hazards.

3. Graduates will understand building specifications, the range of contract documents and specifications of change process and interpret contracts and legal documents and the relationship between documents that apply to the construction project.

4. Graduates will be able to schedule a construction project by quantifying work, take-off plans and specifications, using conventional scheduling methods--critical path methods, Gantt charts, monthly reports and crashing time schedules and the option to perform advanced scheduling using computer applications and resource leveling.

5. Graduates will be familiar with how to estimate a construction project and implement cost controls using blueprints and building specifications.

6. Graduates will have performed a capstone course in the role of a construction supervisor either of a sub contractor or a general contractor, integrating the skills and knowledge learned and experienced in the program.

Construction Supervisor AAS Degree

Program Requirements

Course		Cr
CNSP 2410	Construction Methods, Materials and Their Applications	3
CNSP 2412	Construction Codes and Inspection	3
CNSP 2413	Construction Safety and Loss Control	3
CNSP 2414	Building Specifications, Contract Documents and Specification Change Process	3
CNSP 2420	Project Scheduling	3
CNSP 2450	Construction Estimating and Cost Control	3
CNSP 2460	Contracts and Legal Aspects of Construction Industry	3
CNSP 2490	Internship in Supervising	2
CNSP 2481	Advanced Scheduling	3
CNSP 2500	Construction Superintendent 1: Project Management for Subcontractors OR	3
CNSP 2501	Capstone 2: Project Management for General Contractors	3
ADMS 1445	Business Communication OR	3
CNSP 2491	Advanced Estimating	3
	Subtotal	**32**
	Dept. of Labor approved Building Trades apprenticeship program	**20**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

	Cr
Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1	7
Goal 1: Communication ENGL 1711 Composition 1 – 4 cr SPCH 1700 Introduction to Speech Communications – 3 cr **OR** SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR** SPCH 1720 Interpersonal Communication – 3 cr **OR** SPCH 1730 Intercultural Communication – 3 cr **OR** SPCH 1750 Small Group Communication – 3 cr	
Select a minimum of 3 credits from Goal 3 or Goal 4	3
Goal 3: Natural Sciences Goal 4: Mathematical/Logical Reasoning	
Select a minimum of 3 credits from Goal 5	3
Goal 5: History, Social Science and Behavioral Sciences	
Select a minimum of 3 credits from Goal 6	3
Goal 6: Humanities and Fine Arts	
Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.	4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

Construction Electricity

Construction Electricity Diploma. . . . . 66 Credits

Program Overview

A construction electrician is employed to install electrical wiring and equipment for lighting, heating, cooling and other power requirements in residential, commercial and industrial buildings. Using blueprints, diagrams and specifications, students perform installations in accordance with national, state and local safety codes. Considerable physical exertion is often required and the work may be performed outdoors or under such hazardous conditions as heights, unfinished construction or high voltages.

Construction Electricity requires high school graduation or equivalent. Students should have an interest and aptitude in applied higher algebra, trigonometry, drawing and science. Good eyesight and color vision are important.

Career Opportunities

According to the U.S. Department of Labor, "As the population and the economy grow...more electricians will be needed to maintain the electrical systems used by industry and to install electrical devices and wiring in new homes, factories, offices and other structures."

Graduates are employed as apprentices by electrical construction firms. Upon completion of apprenticeship and the obtaining of a journeyperson's license, students are open to opportunities as master electricians, inspectors, contractors, estimators and repair persons.

Program Outcomes

1. Graduates will have the ability to communicate and conduct themselves in a professional manner with the customers and co-workers.

2. Graduates will have the skills for performing entry level tasks required of an apprentice electrician in residential, commercial and industrial construction.

3. Graduates will have knowledge of the National Electrical Code, enabling them to legally and safely install electrical services with supervision.

4. Graduates will have the ability to apply electrical theory to practical applications.

Construction Electricity Diploma

Program Requirements

Course		Cr
CNEL 1410	Direct Current Circuit Analysis	3
CNEL 1420	Alternating Current Circuit Analysis	4
CNEL 1435	Intro to the National Electrical Code	1
CNEL 1440	Alternating Current Motors	3
CNEL 1450	Electrical Trade Calculations	3
CNEL 1460	Blueprint Reading for Electricians	1
CNEL 1510	Test Equipment & Power Supplies	3
CNEL 1520	Transistors & Amplifiers	2
CNEL 1530	Thyristors & Optical Devices	2
CNEL 1540	Job Site Safety	1
CNEL 1560	Three Phase Systems	2
CNEL 1570	Three Phase Motors	3
CNEL 1585	Energy Management Systems	2
CNEL 1590	Direct Current Motor & Generators	2
CNEL 2410	Transformers	3
CNEL 2420	Motor Controls	4
CNEL 2430	Heating & Cooling Systems	2
CNEL 2445	Residential Wiring Methods	2
CNEL 2450	National Electrical Code 1	3
CNEL 2460	Electromechanics	1
CNEL 2510	Wiring Systems	2
CNEL 2520	Wiring Methods	2
CNEL 2540	Commercial Wiring Methods	3
CNEL 2550	Industrial Wiring Methods & Service Entrances	2
CNEL 2560	National Electrical Code 2	3
CNEL 2575	Alarm, Data and Communication Systems	2
MATH 1420	Trade Algebra and Trigonometry	3
RWLD 1430	Welding for Construction Electricity	2
	Total Program Requirements	**66**

Electrical Maintenance

Electrical Maintenance Certificate. . . . . 16 Credits

Program Overview

This program helps current employees to update their classification from general maintenance to electrical maintenance. Graduates are able to increase the range of services provided their employer, which is often accompanied by an increase in salary.

This part-time program is offered in the evenings from 5:00-9:00pm.

Program Outcomes

1. Graduates will have the ability to communicate and conduct themselves in a professional manner with the customers and co-workers.

2. Graduates will have the skills for performing entry level tasks required to troubleshoot, repair and maintain electrical work.

3. Graduates will have knowledge of the National Electrical Code.

4. Graduates will have the ability to apply electrical theory to practical applications.

Electrical Maintenance Certificate

Program Requirements

Course		Cr
CNEL 1111	Electrical Maintenance 1	4
CNEL 1112	Electrical Maintenance 2	4
CNEL 1113	Electrical Maintenance 3	4
CNEL 1114	Electrical Maintenance 4	4
	Total Program Requirements	**16**

Engineering Technology/ Machine Tool Technology

Engineering Technology AAS . . . . 72 Credits
CNC/Toolmaking Diploma. . . . . 64 Credits
BioMedical Precision Machining Specialist Advanced
Certificate. . . . . 16 Credits
Machine Operator Certificate . . . . 30 Credits

Program Overview

This area produces skilled craftspeople who make the precision metal parts that are highly specialized and not mass produced. Machinists produce parts from metal castings, forgings, stampings or from solid metal stock. They make parts to exact specifications by removing excess metal with the aid of machine tools, numerically controlled machines, computer assisted machinery and precise measuring and gauging equipment.

Career Opportunities

As the economy expands so will the demand for manufactured goods that need machined metal parts. Engineering Technology and Machine Tool Technology graduates are hired by industries that manufacture automobiles, industrial machinery, military equipment and other metal products. At many places of employment, graduates can apply training received at the College towards the completion of apprenticeship requirements.

Program Outcomes

1. Graduates will have the knowledge and skills to make precision machined parts and tooling.

2. Graduates will have the knowledge and skills to program and operate CNC equipment using CAD/CAM.

3. Graduates will have the knowledge and skills to operate and set-up inspection and gauging equipment.

4. Graduates will have the knowledge and skills to meet national entry-level skills standards.

5. Graduates will have acquired shop communication skills such as blueprint reading, practical geometric dimensioning and shop CAD/CAM skills.

6. Graduates will have successfully mastered the general education program requirements for work and life skills.

7. Graduates will use solidworks, design parts and collaborate with engineers.

Engineering Technology AAS Degree

Program Requirements

Course		Cr
MTTP 1411	Introduction to Manufacturing Processes	2
MTTP 1413	Interpreting Geometric Dimensioning & Tolerancing	2
MTTP 1421	Engineering Drawing/CAD	4
MTTP 1431	Materials Processing	5
MTTP 1432	Mechanical Applications 1	5
MTTP 1433	Mechanical Applications 2	5
MTTP 1511	CNC 1	2
MTTP 1512	CNC 2	2
MTTP 2410	Computer Aided Manufacturing 1	2
MTTP 2412	Computer Aided Manufacturing 2	2
MTTP 2430	Electrical Discharge Machining	2
MTTP 2510	Tool Design 1	2
MTTP 2511	Molding/Plastic Technology 1	3
MTTP 2512	Manufacturing Applications 1	3
MTTP 2515	Rapid Prototyping	3
MTTP 2517	Product Design 1	2
MTTP 2518	Product Design 2	2
MTTP 2520	Tool Design 2	2
MTTP 2530	Fixture Design	2
	Subtotal	**52**
	General Education Requirements (Select at least 20 credits of General Education according to the requirements listed below)	**20**
	Total Program Requirements	**72**

AAS Degree General Education Requirements*   20 Credits

Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730 or 1750 from Goal 1   7

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
SPCH 1700 Introduction to Speech Communications – 3 cr **OR**
SPCH 1710 Fundamentals of Public Speaking – 3 cr **OR**
SPCH 1720 Interpersonal Communication – 3 cr **OR**
SPCH 1730 Intercultural Communication – 3 cr **OR**
SPCH 1750 Small Group Communication – 3 cr

Select a minimum of 3 credits from Goal 3 or Goal 4   3

Goal 3: Natural Sciences
PHYS 1720 Intro to Physics – 4 cr
Goal 4: Mathematical/Logical Reasoning
MATH 1730, MATH 1760 OR MATH 2751

Select a minimum of 3 credits from Goal 5   3

Goal 5: History, Social Science and Behavioral Sciences

Select a minimum of 3 credits from Goal 6   3

Goal 6: Humanities and Fine Arts

Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.   4

* Refer to the Minnesota Transfer Curriculum Course List for specific course options.

CNC/Toolmaking Diploma

Program Requirements

Course		Cr
MATH 1411	Applied Mathematics	3
MTTP 1411	Introduction to Manufacturing Processes	2
MTTP 1413	Interpreting Geometric Dimensioning & Tolerancing	2
MTTP 1421	Engineering Drawings/CAD	4
MTTP 1424	Shop Calculations and Applications	2
MTTP 1431	Materials Processing	5
MTTP 1432	Mechanical Applications 1	5
MTTP 1433	Mechanical Applications 2	5
MTTP 1511	CNC 1	2
MTTP 1512	CNC 2	2
MTTP 1513	CNC 3	2
MTTP 2410	Computer Aided Manufacturing 1	2
MTTP 2412	Computer Aided Manufacturing 2	2
MTTP 2430	Electrical Discharge Machining	2
MTTP 2510	Tool Design 1	2
MTTP 2511	Moldmaking/Plastic Technology 1	3
MTTP 2512	Manufacturing Applications 1	3
MTTP 2513	Moldmaking/Plastic Technology 2	3
MTTP 2514	Manufacturing Applications 2	3
MTTP 2515	Rapid Prototyping	3
MTTP 2516	Manufacturing Capstone Project	3
MTTP 2520	Tool Design 2	2
MTTP 2530	Fixture Design 1	2
	Total Program Requirements	**64**

BioMedical Precision Machining Specialist Advanced Certificate

Program Requirements

Course		Cr
MTTP 1512	CNC 2	2
MTTP 2410	CAM 1	2
MTTP 2412	CAM 2	2
MTTP 2550	Basic Medical EDM	2
MTTP 2551	Advanced Medical EDM	2
MTTP 2545	CNC Swiss Automatics 1	3
MTTP 2546	CNC Swiss Automatics 2	3
	Total Program Requirements	**16**

Machine Operator Certificate

Program Requirements

Course		Cr
MATH 1411	Applied Mathematics	3
MTTP 1411	Introduction to Manufacturing Processes	1
MTTP 1412	Machine Trades Theory 2	1
MTTP 1413	Interpreting Geometric Dimensioning and Tolerancing	2
MTTP 1421	Engineering Drawing CAD	4
MTTP 1431	Materials Processing	5
MTTP 1432	Mechanical Applications 1	5
MTTP 1433	Mechanical Applications 2	5
MTTP 1511	CNC 1	2
MTTP 1512	CNC 2	2
	Total Program Requirements	**30**

Painting and Decorating

Painting and Decorating Certificate . . . . 18 Credits

Program Overview

Painters apply paint, varnish, and other finishes to wood, plastic, various metals, sheetrock, plastered surfaces, and masonry. Painters are familiar with the process of preparing surfaces to receive a protective covering of oil paint, latex paint, epoxy paint, or various wall coverings such as vinyl, paper, or fabric. Painters are knowledgeable of paint composition, surface preparation, paint selection and harmony. They are also knowledgeable of the effects climate and chemical exposure has on painted surfaces. Painters also install wall coverings such as vinyl, papers, and fabrics.

The ability to lift ladders and paint containers in excess of 50 to 75 pounds is required by the painting trade.

Career Opportunities

Employment of painters will grow as the level of new construction activity increases and as old structures require maintenance and repair.

Program Outcomes

1. Graduates will demonstrate knowledge of the fundamentals of painting and decorating and blueprint reading.

2. Graduates will have the knowledge and skills in the use of solvents, stains, and application techniques.

3. Graduates will demonstrate proper use of painting tools and equipment such as compressors, air regulators, spray guns, and respirators.

4. Graduates will demonstrate knowledge of safety practices.

5. Graduates will demonstrate estimating the amount of paint and wall covering needed for a project.

6. Upon completion, graduates are prepared to work as painters and work with wall covering, and wood finishings.

7. Graduates will have employability skills to create resumes, portfolios, and do recordkeeping.

8. Graduates may choose to apply for continued training in an apprenticeship program.

Painting and Decorating Certificate

Program Requirements

Course		Cr
PDEC 1405	Small Hand Tools	3
PDEC 1425	Finishing	4
PDEC 1480	Spray Painting	3
PDEC 1500	Refinishing	4
PDEC 1515	Wall Covering	3
PDEC 1590	Employability	1
	Total Program Requirements	**18**

Pipefitting Construction

Pipefitting Construction Certificate . . . . 20 Credits
Pipefitting Diploma . . . . 40 Credits

Program Overview

The Construction Pipefitting Certificate trains pre-apprentice Pipefitters for construction of operations such as refineries and gasification plants.

Program Outcomes

1. Graduates will have the science and math skills needed in the piping systems.

2. Graduates will have the knowledge and skills to install piping systems in commercial and industrial buildings.

3. Upon completion, graduates will be prepared for an apprenticeship in pipefitting.

Pipefitting Construction Certificate

Program Requirements

Course		Cr
PIPE 1410	Pipe Science/Math	5
PIPE 1420	Pipe Blueprint Reading	3
PIPE 1430	Pipe Welding 1	5
PIPE 1441	Basic Heating 1	3
PIPE 1451	Pipe Shop 1	4
	Total Program Requirements	**20**

Pipefitting Diploma

Program Requirements

Course		Cr
PIPE 1410	Pipe Science/Math	5
PIPE 1420	Pipe Blueprint Reading	3
PIPE 1430	Pipe Welding 1	5
PIPE 1441	Basic Heating 1	3
PIPE 1442	Basic Heating 2	3
PIPE 1451	Pipe Shop 1	4
PIPE 1452	Pipe Shop 2	4
PIPE 1520	Basic Air Conditioning	2
PIPE 1530	Pipe Welding 2	5
PIPE 1540	Electric Controls	3
PIPE 1550	Basic Gas	3
	Total Program Requirements	**40**

Sheet Metal

Sheet Metal Diploma . . . . 40 Credits

Program Overview

The sheet metal worker reads blueprints, prepares layouts and operates fabricating devices such as special hand tools, power shears, nibbler, brake, bar folder, turning machines, spot and arc welders, soldering equipment and plasma cutting systems. The skilled sheet metal worker gathers general information and specifications from blueprints for the fabrication and installation of ducts for heating, cooling, filtering and humidifying air. Also, sheet metal workers fabricate and install metal roofing and siding, stainless steel equipment for homes and industry, chutes for material transfer, signs and rain dispersal equipment.

Satisfactory preparation for the sheet metal program may include high school courses in algebra and geometry. Other helpful courses are mechanical drafting and metal shop. Much of the sheet metal work starts with two-dimensional objects and ends with a three-dimensional product. Sheet metal work requires good spatial perception.

Career Opportunities

According to the U.S. Department of Labor, employment of sheet metal workers in construction is expected to increase about as fast as the average for all occupations through the year 2004-2005.

Graduates may go to work for firms that fabricate sheet metal products and become skilled production, precision, or construction sheet metal workers.

Program Outcomes

1. Graduates will have the knowledge and skills to layout, fabricate and assemble all types of sheet metal products.

2. Graduates will have the ability to safely operate all types of sheet metal fabricating equipment.

3. Graduates will have the knowledge and skills to complete sheet metal welding and soldering processes.

4. Graduates will have the knowledge and skills to use computer aided drafting for the design and fabrication of sheet metal products.

5. Graduates will have the knowledge and skills to use Drafting and Blueprint Reading to design HVAC duct systems.

Sheet Metal Diploma

Program Requirements

Course		Cr
COMM 1510	Customer & Occupational Relations	3
SMET 1410	Sheet Metal Fitting Layout and Design	4
SMET 1420	Sheet Metal Fitting Fabrication	4
SMET 1430	Sheet Metal Drafting & Blueprint Reading	2
SMET 1440	Sheet Metal Welding	5
SMET 1450	Sheet Metal Practical Problem Solving	2
SMET 1510	Duct System Layout & Design	4
SMET 1520	Duct System Fabrication	4
SMET 1530	Architectural Sheet Metal	4
SMET 1540	Power Machine Operation	3
SMET 1550	Sheet Metal CAD/CAM Systems	3
SMET 2700	OSHA 30 HR Training	2
	Total Program Requirements	**40**

Truck Technician

Truck Technician Diploma . . . . 67 Credits

Program Overview

Technicians diagnose trouble accurately with the use of modern testing equipment. They repair and service the entire truck and trailer including gas and diesel engines. They also work on air brakes, multi-speed transmissions, differentials, electrical systems, chassis and engine electronics, cooling systems, air conditioning and refrigeration, the chassis and many more components of today's modern truck.

The student should be capable of passing a rigid physical examination with emphasis on eyesight, color vision, hearing, back condition and motor coordination. Applicants should be high school graduates or equivalent with good reading ability and an understanding of basic mathematics in order to understand and apply technical information.

Career Opportunities

Maintenance departments, which have the responsibility for the repair and the maintenance of the entire truck, need skilled graduates to fill truck technician positions. Many technicians find employment with companies that own a fleet of vehicles such as truck lines, bus lines and construction companies. Other technicians work for small repair shops, truck dealerships, heavy equipment dealers and the government.

Employment of truck technicians is expected to increase faster than average according to the U.S. Department of Labor.

Program Outcomes

1. Graduates will have the knowledge and skills to service and repair medium and heavy duty trucks and trailers.

2. Graduates will have acquired supervised work experience servicing and repairing medium and heavy duty trucks and trailers.

3. Graduates will be prepared for employment as truck technicians and truck preventative maintenance technicians.

4. Graduates will have mastered the general education program requirements for work and life roles.

Truck Technician Diploma

Program Requirements

Course		Cr
RWLD 1440	Introduction to Gas, Arc, & Mig Welding	2
RWLD 1450	Advanced Mig & Tig Welding	2
TRKM 1400	Introduction and Safety	1
TRKM 1521	Electrical 1	5
TRKM 1522	Electrical 2	5
TRKM 1551	Clutch and Transmission	5
TRKM 1552	Driveshafts and Differentials	4
TRKM 1553	Automatic and Automated Transmissions	4
TRKM 1560	Truck Brake Systems	6
TRKM 2401	Steering and Suspension Systems	6
TRKM 2425	Truck Cab Climate Control Systems	3
TRKM 2440	Gasoline Engines	6
TRKM 2511	Diesel Engines 1	6
TRKM 2512	Diesel Engines 2	6
TRKM 2540	Preventive Maintenance	3
	General Education Requirement	**3**
	Total Program Requirements	**67**

Welding

Welding Fabrication Diploma . . . . 64 Credits
Welding Metal Fabrication Certificate . . . . 30 Credits
Welding Certificate . . . . 30 Credits

Program Overview

Welding, brazing, cutting and fabrication operations require skilled workers who are well-trained in the use of oxyacetylene, arc, wirefeed, heliarc, flux core, submerged arc welding process, layout, turret punch, CNC/NC plasma cutting, press break and robotics. Skilled welding fabricators are thoroughly familiar with breakdown and setup procedures, test standards and all types of metals.

Physical requirements include good eyesight, good hand and eye coordination and the ability to perform heavy, physical work.

Career Opportunities

According to the U.S. Department of Labor, 7 out of 10 welding-related jobs were held by skilled welders. Skilled welders who are familiar with up-to-date techniques should have good job prospects.

Welders and fabricators work in manufacturing plants as production welders, maintenance welders, specialist welders, layout, press brake operators, turret punch operators, NC/CNC plasma cutting operators and robotic welding operators in structural and non-structural settings. Welding/fabricating is widely used in the aircraft, automobile, trucking, shipbuilding, pipefitting, plumbing, sheetmetal, ironworking and other trades that use metals. With experience and additional education through day or evening classes, they can become layout specialists, technicians, supervisors or private shop owners.

Program Outcomes

1. Graduates will have the knowledge and skills in set-up and break-down procedures, test standards and different types of metals.

2. Graduates will have knowledge and skills in OAW (oxyacetylene welding), OAC (oxyacetylene cutting), SMAW (shielded metal arc welding), GMAW (gas metal arc welding), GTAW (gas tungsten arc welding), PAW (plasma arc welding), PAC (plasma arc cutting), FCAW (flux core arc welding) and SAW (submerged arc welding).

3. Graduates will have acquired supervised hands-on experience in using welding processes.

4. Graduates will have the knowledge and skills in plasma cutting, turret punch, pressbreak and CNC/NC operations.

5. Graduates will have the knowledge and skills in set-up and break-down procedures in the fabrication and welding industry.

6. Graduates will be prepared for employment in the welding industry and related fields.

7. Graduates will have successfully mastered the general education program requirements for work and life roles.

Welding Fabrication Diploma

Program Requirements

Course		Cr
COMM 1480	Job Seeking Resources	1
MATH 1411	Applied Math	3
WELD 1410	Oxy Acetylene Welding, Cutting & Brazing	3
WELD 1420	SMAW E6013	3
WELD 1431	Blueprint Reading 1	2
WELD 1432	Blueprint Reading 2	2
WELD 1440	Basic SMAW E6010	3
WELD 1450	E7018 Advanced SMAW	3
WELD 1465	Metallurgy and Welding Theory	2
WELD 1510	Area's Layout	2
WELD 1520	GMAW Short Arc	3
WELD 1530	Inspection, Qualification and Carbon Arc	3
WELD 1540	GMAW Spray and Pulse Spray	3
WELD 1550	GMAW Aluminum & Stainless Steel	3
WELD 1560	Grinding & Finishing	2
WELD 1561	Radon Drafting Solutions	2
WELD 2410	GTAW for Mild Steel	3
WELD 2420	GTAW Aluminum and Stainless Steel	3
WELD 2430	Volumes Layout	2
WELD 2440	FCAW and SAW Process	3
WELD 2450	Weld Inspection/Metallurgy for Welders	2
WELD 2460	Introduction to Layout	3
WELD 2510	Fabrication Shop Hand Equipment	3
WELD 2511	Fabrication Shop/Equipment 1	3
WELD 2520	Robotics	2
	Total Program Requirements	**64**

Welding Metal Fabrication Certificate

Program Requirements

Course		Cr
COMM 1480	Job Seeking Resources	1
MATH 1411	Applied Math	3
WELD 1410	Oxy-Acetylene Welding Cutting & Brazing	3
WELD 1431	Blue Print Reading 1	2
WELD 1470	Measuring Devices	1
WELD 1520	GMAW Short Arc	3
WELD 1550	GMAW Aluminum & Stainless Steel	3
WELD 2410	GTAW for Mild Steel	3
WELD 2460	Introduction to Layout	3
WELD 2510	Fabrication Shop Hand Equipment	3
WELD 2511	Fabrication Shop/Equipment 1	3
WELD 2520	Robotics	2
	Total Program Requirements	**30**

Welding Certificate

Program Requirements

Course		Cr
COMM 1480	Job Seeking Resources	1
MATH 1411	Applied Math	3
WELD 1410	Oxy-Acetylene Welding Cutting and Brazing	3
WELD 1431	Blueprint Reading 1	2
WELD 1432	Blueprint Reading 2	2
WELD 1450	E7018 Advanced SMAW	3
WELD 1470	Measuring Devices	1
WELD 1520	GMAW Short Arc	3
WELD 1540	GMAW Spray and Pulse Spray	3
WELD 2410	GTAW for Mild Steel	3
WELD 2420	GTAW Aluminum & Stainless Steel	3
WELD 2440	FCAW and SAW Process	3
	Total Program Requirements	**30**

Course Descriptions

Experiences.
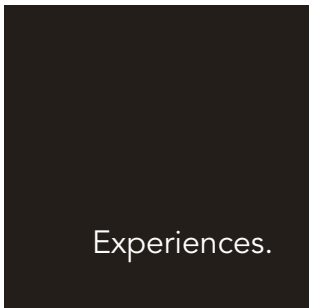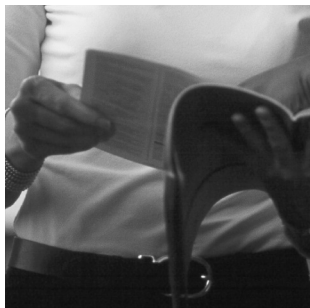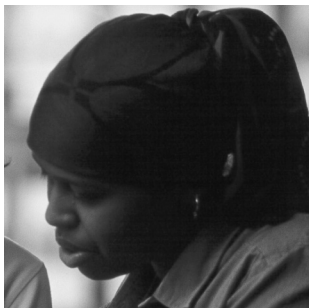
Course Descriptions

The following Course Descriptions are alphabetized by program area. Each course description includes a course number and title, description of the course, a listing of any required prerequisites and the number of credits. The credit listing includes the lecture, lab and/or on-the-job breakdown. For example, 4C/3/1/0 shows that the course is 4 credits with 3 credits of lecture, 1 credit of lab and 0 credits of on-the-job training.

■ Accounting

ACCT 1411 Principles of Accounting 1
Introduces students to the fundamental accounting concepts and principles used to analyze and record business transactions. 4C/4/0/0

ACCT 1412 Principles of Accounting 2
An introduction to principles of accounting for the partnership entity, the corporate entity and additional topics in financial accounting. (Prerequisite(s): ACCT 1411) 4C/4/0/0

ACCT 1511 Federal Taxation 1
Introduces students to the basic issues and concepts of taxation principles. Students observe federal tax laws as applied to the preparation of the Form 1040 and related schedules. Tax preparation software is utilized for case projects. (Prerequisite(s): ACCT 1411) 4C/4/0/0

ACCT 1512 Federal Taxation 2
Introduces students to the fundamentals of tax law regarding business federal income taxation. Planning issues of estates and gift taxation are part of this course. Tax preparation software is utilized for case projects. (Prerequisite(s): ACCT 1511) 4C/4/0/0

ACCT 1521 Accounting Computer Applications 1
Combines the theory of financial accounting principles and software applications. Two types of software, spreadsheet and general ledger, are included in the course. (Prerequisite(s): ACCT 2540) 4C/4/0/0

ACCT 1522 Accounting Computer Applications 2
This course is the combination of financial accounting theory with current software programs. Advanced topics in financial accounting are integrated with spreadsheets and general ledger software programs. (Prerequisite(s): ACCT 1521) 4C/4/0/0

ACCT 2411 Intermediate Accounting 1
Covers financial reporting using generally accepted accounting principles and concepts relating to income determination, revenue recognition and asset valuation. (Prerequisite(s): ACCT 1412) 4C/4/0/0

ACCT 2412 Intermediate Accounting 2
Continues the study of financial reporting using generally accepted accounting principles and concepts relating to liabilities and equity, earnings per share, pensions, leases, bonds and the statement of cash flow. (Prerequisite(s): ACCT 2411) 4C/4/0/0

ACCT 2420 Managerial Accounting 1
Introduces students to costing concepts and methods of analysis. Students analyze the management decision-making process via problem solving and case analysis. Projects include non-profit and profit entities. (Prerequisite(s): ACCT 1412) 4C/4/0/0

ACCT 2510 Managerial Accounting 2
Continuation of costing concepts and methods of analysis. Students analyze the management decision-making process via problem solving and case analysis. Projects include non-profit and profit entities. (Prerequisite(s): ACCT 2420) 4C/4/0/0

ACCT 2520 Auditing
Covers auditing and assurance services reporting using generally accepted auditing standards and concepts. An integrated computerized audit case is part of the audit course. (Prerequisite(s): ACCT 1412) 4C/4/0/0

ACCT 2530 Fundamentals of Non-Profit Accounting
This course addresses the entity which is not concerned with a profit objective. About one-third of entities in the United States are non-profit. The course covers objectives and principles of reporting for the non-profit entity. (Prerequisite(s): ACCT 1412) 4C/4/0/0

ACCT 2540 Spreadsheet Math Formulas and Functions for Accounting
This course introduces students to the issues of spreadsheet financial mathematics. The study of Financial Functions, Math & Logic Functions and Statistical Functions as they apply to Financial and Managerial Accounting. (Prerequisite(s): ADMS 1418) 4C/4/0/0

ACCT 2591 Accounting Internship
A cooperative work-student program between Saint Paul College Accounting Program and a business facility to allow the student an employment-like experience. (Prerequisite(s): Instructor approval) Variable 2-8 credits.

■ Administrative Support/Office Careers

ADMS 0710 Keyboarding Fundamentals
Covers keyboarding skill development and the use of a computer. 3C/1/2/0

ADMS 1400 Microcomputer Keyboarding
Covers "Touch Keyboarding" skill development on a computer keyboard. A variety of drills will be used to develop speed and accuracy of keyboarding skills. 2C/1/1/0

ADMS 1401 Skillbuilding 1
Designed to increase keyboarding speed and improve keyboarding accuracy through personal goal setting, error analysis and intensive corrective practice work. Students must know how to key using the "touch" method. 2C/1/1/0

ADMS 1402 Skillbuilding 2
Designed as a continuation of ADMS 1401, this course enables students to continue to increase their keyboarding speed and improve keyboarding accuracy based on personal goal setting, error analysis and intensive corrective practice work. (Prerequisite(s): ADMS 1401) 2C/1/1/0

ADMS 1405 Introduction to Microcomputers for Health Programs

Intended as a short course in word processing, spreadsheet and Internet use for students in the Health Programs. Applications include reference to materials in the allied health fields. Basic keyboarding skill is also introduced. 3C/2/1/0

ADMS 1410 Document Formatting

Covers continued development of keyboarding speed and accuracy and proofreading skills. Students will develop skill in formatting and production of the following documents: memos, letters, envelopes, tables and reports. Students will be tested on the first day of class to determine two requirements: 1–accurate keyboarding speed of 30 wpm and 2–using the touch method. 3C/1/2/0

ADMS 1418 Computer Fundamentals for Beginners

This course covers introductory information about computer hardware and software, disk maintenance that includes working with folders and files and the use of the microcomputer as a productivity tool. Students will be given introductory training in Microsoft Windows, Microsoft Office (word processing, spreadsheets, graphs, database and presentation applications) and Internet usage. 3C/3/0/0

ADMS 1421 Introduction to Microsoft Office Software

This is the first course in a sequence that prepares the student for the Microsoft Office Specialist (MOS) certification exams. This course covers basic systems training and utilization using Microsoft Office software for office applications. Software components include Word, Excel, Access, PowerPoint and integrated activities that are experienced in the work setting. Students entering the course are expected to have knowledge of Windows and mouse skills. 4C/4/0/0

ADMS 1423 Advanced Microsoft Office Software

This is the second course in a sequence that prepares the student for the Microsoft Office Specialist (MOS) certification exams. After successful completion of the course, students will have the knowledge necessary to take the Core Level certification tests to become MOS certified. This course covers advanced microcomputer software including Word, Excel, Access, PowerPoint and integration of the applications. Topics include form letters, merging, desktop publishing, financial functions, amortization schedules, data tables, creating and querying a worksheet database, templates, creating customized reports and forms in Access, Switchboard Manager, embedded visuals and importing clips into PowerPoint. (Prerequisite(s): ADMS 1421) 4C/4/0/0

ADMS 1425 Expert Level Microsoft Office Software

Final course in a sequence that prepares the student for the Microsoft Office Specialist (MOS) certification exams. After successful completion of the course, students will have the knowledge necessary to take the Expert Level certification tests to become MOS certified. This course covers high-end advanced applications including Word, Excel, Access, PowerPoint and integration of the applications. Word topics include creating an index, a table of contents, online forms, merging an e-mail form letter using an Access database and using VBA with Word. Excel topics include macros, VBA, Solver, data validation, password protection, Pivot Tables and Data Maps. Access topics include creating a report using design view, customizing forms using VBA and working with charts. PowerPoint topics include creating a self-running presentation using animation effects and using VBA. (Prerequisite(s): ADMS 1423) 4C/4/0/0

ADMS 1430 Computer 10-Key

Designed to teach the numeric ten-key by using the touch method. Ten-key production timings will be used to help the student develop the speed and accuracy necessary to skillfully apply this knowledge to a variety of data entry situations. Training is offered on a microcomputer ten-key keypad. Ergonomic issues for computer users are addressed. 2C/1/1/0

ADMS 1435 Business Proofreading & Editing

This course is designed to develop skills in proofreading and editing business documents. Students will be able to develop the skills needed for identifying and correcting errors in business documents. 3C/3/0/0

ADMS 1445 Business Communications

Students will develop basic and advanced writing techniques such as using plain language, concise wording, conversational tone, parallelism and many other "tricks of the trade." This course introduces listening, nonverbal and speaking skills. 3C/3/0/0

ADMS 1501 Microsoft Office—Word

This course covers basic systems training and utilization using Microsoft Office—Word software. The material taught in this class, along with Advanced Microsoft Office—Word will prepare the student for the Microsoft Office examination for Microsoft Word. Students that have taken ADMS 1421 should not take this course. Students entering the course are expected to have knowledge of Windows and mouse skills. 2C/1/1/0

ADMS 1502 Microsoft Office—Excel

This course covers basic systems training and utilization using beginning Microsoft Excel software. The material taught in this class and Advanced Microsoft Office—Excel would prepare the student for the Microsoft Office Specialist examination for Microsoft Excel. Students that have taken ADMS 1421 should not take this course. Students entering the course are expected to have knowledge of Windows and mouse skills. 2C/1/1/0

ADMS 1503 Microsoft Office—Access

This course covers basic systems training and utilization using beginning Microsoft Access software. The material taught in this class, along with Advanced Microsoft Office—Access will prepare the student for the Microsoft Office Specialist examination for Microsoft Access. Students that have taken ADMS 1421 should not take this course. Students entering the course are expected to have knowledge of Windows and mouse skills. 2C/1/1/0

ADMS 1504 Microsoft PowerPoint

This course provides a comprehensive presentation to Microsoft PowerPoint. After successful completion of the course, students will have the knowledge necessary to take the Expert Level certification test to become MOS certified. Topics include creating a presentation using a design template and auto-layouts; creating a presentation on the Web; using embedded visuals; creating a self-running presentation using animation effects and using VBA with PowerPoint. Students entering the course are expected to have knowledge of Windows and mouse skills. 2C/2/0/0

ADMS 1530 Communication Technology

This course offers hands-on instruction in current telecommunications technology. The student will apply their knowledge of various communication devices by completing several projects. Communication technology such as the Internet, reprographics, e-mail, voice mail, scanning devices,

multimedia, voice recognition and fax transmission will be used in this course. Students entering the course are expected to have knowledge of Windows and Internet skills. (Prerequisite(s): ADMS 1418 or ADMS 1421 or concurrent enrollment) 4C/4/0/0

ADMS 2410 Administrative Office Procedures
Covers topics that develop skill in performing typical office tasks: telephoning, mailing, filing, calendaring, meeting arrangements, travel arrangements, office equipment care, time management, document production, reprographics and creating reports and financial records. Through the use of interactive software and projects, the student will experience daily routines, make decisions, set priorities, deal with work pressure, develop interpersonal relationships and become aware of work quality and quantity requirements. 4C/4/0/0

ADMS 2506 Basic Web Page Design and Microsoft FrontPage
Students in this course will be able to create attractive and appealing Web pages and get them quickly running on the Web. Practice sessions are based on real-world examples. Emphasis is on hands-on learning. Topics include: creating a Web page from a template/wizard, creating a link, adding hyperlinks, creating hot spots and creating forms. The material presented in this course prepares the student for the Core-level Certified Microsoft Office User exam. Students entering the course are expected to have knowledge of Windows and mouse skills. 3C/1/2/0

ADMS 2507 Microsoft Outlook E-Mail and Calendaring
Students will be able to design and implement an integrated office scheduling and productivity system using Microsoft Outlook in conjunction with Microsoft Office. Topics include scheduling appointments, meetings and events, controlling and setting up tasks, managing folders, working with notes, messages and electronic mail. Students entering the course are expected to have knowledge of Windows and mouse skills. 3C/1/2/0

ADMS 2508 Desktop Publishing
This course is designed to help students learn the various desktop publishing features. This is accomplished through the presentation of concepts and creation of a variety of documents. Emphasis is on hands-on learning. Topics include: basic layout and design, creating Web pages, newsletters, award certificates, logos, flyers, name badges, forms and promotional documents. Students entering the course are expected to have knowledge of Windows and mouse skills. 3C/1/2/0

ADMS 2511 Advanced Microsoft Office—Word
This course is designed to extend the student's basic knowledge of Microsoft Word using advanced Microsoft Word applications. The course material presented in this course prepares the student for the certified Microsoft Office Specialist exam for Microsoft Word. (Prerequisite(s): ADMS 1501) 2C/1/1/0

ADMS 2512 Advanced Microsoft Office—Excel
This course is designed to extend the student's basic knowledge of Microsoft Excel using advanced Microsoft Excel applications. The course material presented in this course prepares the student for the certified Microsoft Office Specialist exam for Microsoft Excel. (Prerequisite(s): ADMS 1502) 2C/1/1/0

ADMS 2513 Advanced Microsoft Office—Access
This course is designed to extend the student's basic knowledge of Microsoft Access using advanced Microsoft Access applications. The course material presented in this course prepares the student for the certified Microsoft Office Specialist exam for Microsoft Access. (Prerequisite(s): ADMS 1503) 2C/1/1/0

ADMS 2550 Introduction to Help Desk and Customer Service
This course is designed to provide the student insight into the business process behind support and how to apply the appropriate technology to those processes. The student will learn the connection between technology and its practical use every day. Students will look at the processes and associated technologies available for customer service and support in a technical or non-technical environment. 4C/4/0/0

ADMS 2590 Administrative Support Internship
A cooperative work-study program between Saint Paul College Administrative Support programs and a business facility. This course allows the student to experience a closely supervised job situation that is related to the program. (Prerequisite(s): Instructor approval) Variable 2–8 credits

■ American Sign Language

ASLS 1411 American Sign Language 1
Introduction to American Sign Language (ASL), a visual/gestural language used by the Deaf Community. Course covers sign vocabulary, sentence structures, dialogue formats through facial expressions and body movements used in signing. 3C/3/0/0

ASLS 1412 American Sign Language 2
A continuation of ASLS 1411, designed to expand students' conversational range from talking about themselves to talking about other people and activities, giving directions, describing people and making requests. (Prerequisite(s): ASLS 1411 with a grade of "C" or better) 3C/3/0/0

ASLS 1413 American Sign Language 3
A continuation of ASLS 1412, designed to expand students' comprehension and sign language production skills. Through meaningful communication contexts students will use communicative functions which include locating things, asking for solutions, discussing life events and describing objects. Using appropriate cultural behaviors and strategies for conversational management is stressed. Receptive and expressive fingerspelling and information about the deaf community will further enhance the learning process. (Prerequisite(s): ASLS 1412 with a grade of "C" or better) (MnTC: Goal 8) 3C/3/0/0

ASLS 1414 American Sign Language 4
A continuation of ASLS 1413 provides more complex ASL grammatical features, communicative functions and receptive fingerspelling and numbers. Cultural features will be stressed to develop competency and fluency in the language. (Prerequisite(s): ASLS 1413 with a grade of "C" or better) (MnTC: Goal 8) 3C/3/0/0

ASLS 1415 American Sign Language 5
This course is an ongoing instruction of American Sign Language covering communicative functions, sign vocabulary, fingerspelling, grammar and cultural aspects of the Deaf

Community. At the completion of ASL 5, each student shall be able to use these language functions and conversational behaviors appropriately in ASL. 3C/3/0/0

ASLS 1420 ASL Linguistics
Introduces students to the linguistics of American Sign Language (ASL). Students study the major features of language structures and the underlying knowledge for the social uses of American Sign Language.   Content includes an examination of the structure of the physical signals of ASL, the customary patterns for combining them and the influence of signs on one another in connected discourse. (Prerequisite(s): ASLS 1414 with a grade of "C" or better) 4C/4/0/0

ASLS 1430 Classifiers
Introduces students to the fundamentals of American Sign Language (ASL) classifiers. Students will enhance and expand the use of classifiers in their expressive skills and in the recognition of classifiers in their receptive skills. (Prerequisite(s): ASLS 1420 with a grade of "C" or better) 3C/3/0/0

ASLS 1435 Deaf Studies/Culture
This course is designed to help students understand and appreciate Deaf Culture and the Deaf Community. Deaf history, historical and modern-day perspectives, deafness and its impact, Deaf Culture/Community characteristics, education, communication modes/languages used by D/deaf people and the ramifications and impact of American Sign Language and Deaf Culture upon the lives of D/deaf people and other populations will be introduced. (MnTC: Goal 8) 3C/3/0/0

ASLS 1441 ASL Fingerspelling and Numbers 1
Introduces students to the fundamentals of lexicalized fingerspelling. It includes loan signs, letter blocks, tips for improving both expressive and receptive skills. (Prerequisite(s): ASLS 1414 with a grade of "C" or better) 2C/2/0/0

ASLS 1442 ASL Fingerspelling and Numbers 2
This course covers the complex rules and patterns of ASL number systems. Focus is given to the distinctions between cardinal and ordinal systems, incorporating systems and unique systems. (Prerequisite(s): ASLS 1441 with a grade of "C" or better) 2C/2/0/0

ASLS 1444 ASL Sign Reading
This course is designed to improve receptive communication skills. Students acquire strategies to enhance their understanding of deaf signers. (Prerequisite(s): ASLS 1420 with a grade of "C" or better) 2C/2/0/0

ASLS 1446 ASL Non-Manual Markers
This course covers the non-manual aspect of the language. The use of the face, eyes and head to convey grammatical information will be covered. Students will analyze specific features. Other topics include ASL 'mouthing', showing emotion and inappropriate facial behaviors. (Prerequisite(s): ASLS 1420 with grade of "C" or better) 2C/2/0/0

ASLS 1448 American Sign Language Semantics
This course is designed to expand student's sign vocabulary by analyzing multiple-meaning words and various sign equivalents. Language learning activities will focus on nouns-verbs, sentence types, classifiers, inflection of verbs with temporal aspect and distributional aspect. (Prerequisite(s): ASLS 1414 with grade of "C" or better) 2C/2/0/0

ASLS 1455 Contrastive Text Analysis
This course introduces the definition of a language, its components that apply to any language and comparison among the languages. The various elements of both languages, American Sign Language and English are compared, contrasted and applied. (Prerequisite(s): ASLS 1420 with a grade of "C" or better) 2C/2/0/0

ASLS 1469 Deaf Heritage of Minnesota
Covers the history of deaf people in Minnesota and its impact upon deaf and non-deaf Minnesotans. (Prerequisite(s): ASLS 1420 with a grade of "C" or better or instructor approval) 2C/2/0/0

ASLS 1470 ASL Discourse
Introduces students to the discourse level of American Sign Language (ASL). Students will research and analyze ASL discourse and discover the variety of devices or techniques to convey information in visually clear and effective ways. (Prerequisite(s): ASLS 1420 with grade of "C" or better) 2C/2/0/0

ASLS 1497 Special Topics in ASL
A variable credit granting course that focuses on special topics in the area of American Sign Language and Deaf Culture. Courses are designed to accommodate the learning needs and interests of students. Each course syllabus focuses on specific content areas which may not be presented or presented in-depth in other ASLS courses. Variable 1-5 credits

■ Anthropology

ANTH 1710 Introduction to Cultural Anthropology
This course introduces students to the concept of culture, the human past and present and the unity and diversity that characterizes the human species. The course covers the history and development of theories of functionalism, structuralism, cultural ecology, cultural evolution and related topics. There is a focus on current issues and problems and the relationship to societal and global matters. (MnTC: Goals 5 & 7) 4C/4/0/0

ANTH 1720 Physical Anthropology
This course presents the bio-cultural evolution of people over time including major ecological revolutions in human history, theories of cultural evolution, methods of excavation and artifact discovery and analysis. (MnTC: Goals 5 & 10) 4C/4/0/0

ANTH 1790 Special Topics in Anthropology
This course provides learning experiences that meet the needs of students and pre-major course requirements in anthropology. (MnTC: Goal 5) 3C/3/0/0

■ Appliance Field Service Technology

MAJR 1400 Major Appliance EPA Certification Preparation
This course covers recovery, recycling and reclamation of refrigerants as well as laws governing the use of refrigerants. Students are given the opportunity to take the EPA refrigeration certification exam after taking the course. 1C/1/0/0

MAJR 1422 Major Appliance Electricity Shop 2
AC electricity including the operation of motors, controls, transformers and diodes is covered. Components will be tested with proper meters and equipment. (Prerequisite(s): MAJR 1410 and MAJR 1421 concurrent) 3C/1/2/0

MAJR 1430 Refrigeration Introduction
Covers the theory and laws governing refrigeration, the operation of refrigeration systems, components, tools and test equipment. 4C/2/2/0

MAJR 1441 Refrigeration Lab
Covers domestic refrigerators, freezers and air conditioners. Components will be removed, tested and replaced. Machines will be diagnosed, repair estimates given and repairs made. (Prerequisite(s): MAJR 1430 or concurrent enrollment) 6C/0/6/0

MAJR 1442 Refrigeration Shop 2
Covers the operation and service of commercial refrigeration systems. Components will be removed, tested and replaced. Refrigeration will be recovered and systems recharged. The EPA Certification test will be offered. (Prerequisite(s): MAJR 1410, MAJR 1441 and MAJR 1450 concurrent) 4C/0/4/0

MAJR 1443 Refrigeration Shop 3
Covers the operation and service of central air conditioners. Components will be removed, tested and replaced. (Prerequisite(s): MAJR 1430 and MAJR 1441 concurrent) 2C/0/2/0

MAJR 1450 Refrigeration Systems Service & Containment
Covers the different soldering and brazing methods and materials used in refrigeration service. Emphasis will be on the recovery, recycling and charging methods used. (Prerequisite(s): MAJR 1410 and MAJR 1421 concurrent) 3C/1/2/0

MAJR 1451 Introduction to Electricity Theory and Practice
This course covers basic electrical theory and laws including the use of Ohm's Law in series, parallel and series-parallel circuits. Students will build electrical circuits, calculate and measure resistance, voltage and amperage using proper meters. 4C/2/2/0

MAJR 1511 Appliance Service Shop 1
Covers laundry repair. Components will be removed, tested and repaired. Machines will be diagnosed, repair estimates written and repairs made. Repair invoices will be written. (Prerequisite(s): MAJR 1410, MAJR 1421 and concurrent enrollment in MAJR 1530) 5C/0/5/0

MAJR 1512 Appliance Service Shop 2
Covers cooking and dishwashing equipment. Components will be removed, tested and repaired. Machines will be diagnosed, repair estimates written and repairs made. Repair invoices will be written. (Prerequisite(s): MAJR 1410, MAJR 1421 and MAJR 1530 concurrent) 5C/0/5/0

MAJR 1520 Hydraulics
Covers laws, applications, components and functions of hydraulic systems. 2C/1/1/0

MAJR 1530 Appliance Introduction
Covers the operation, proper use and components found in all major appliances including ranges, washers, dryers, microwave ovens and dishwashers. (Prerequisite(s): MAJR 1421 concurrent) 3C/2/1/0

MAJR 1540 Commercial Icemakers
Covers the operation and servicing of commercial ice making equipment. (Prerequisite(s): MAJR 1430) 1C/0/1/0

MAJR 1541 Major Appliance Electricity and Electronics
Covers basic electricity theory and laws including the use of Ohm's Law in series, parallel and series-parallel circuits. Involves building electrical circuits (series, parallel and series parallel), calculating and measuring resistance, voltage and amperage using proper meters. 4C/2/2/0

MAJR 1542 Washing Machine Systems, Diagnosis and Repair
Covers laundry equipment repair. Components will be removed, tested, and repaired. Machines will be diagnosed, repair estimates written and repairs made. 3C/1/2/0

MAJR 1545 Dryer Systems Diagnosis and Repair
Covers dishwasher equipment. Components will be removed, tested, and repaired. Machines will be diagnosed, repair estimates written and repairs made. 3C/1/2/0

MAJR 1550 Cooking Equipment Systems, Gas, Steam and Electrical Diagnosis and Repair
Components will be removed, tested, and repaired. Equipment will be diagnosed, repair estimates written and repair invoices made. 4C/1/3/0

MAJR 1555 Dishwashers Systems Diagnosis and Repair
Components will be removed, tested, and repaired. Equipment will be diagnosed, repair estimates written and repair invoices made. 2C/1/1/0

MAJR 1560 Field Service Communication Skills and Customer Relations
Covers how to document a service call and use communication technology to: describe the problem, take corrective action, complaint communication back to the customer and use communication technology such as cell phones, laptop access to software, and GPS systems to locate a residence or a business. 3C/3/0/0

■ Art

ARTS 1710 Fundamentals of Photography 1
This course is an introduction to the basic tools and techniques used in black and white photography, as well as the development of conceptual and aesthetic issues in the field. Technical areas include camera use, metering, aperture, shutter speed controls, film and optics. In addition, the course will address creative uses of photography in its depiction of light and shadow, elements of time, motion, space, portraiture and personal exploration and metaphor. Students will develop a vocabulary for personal expression combining the technical and conceptual issues into a final photographic project of their own design. (MnTC: Goal 6) 3C/2/1/0

ARTS 1711 Fundamentals of Photography 2
Fundamentals of Photography 2 builds on the foundational skills of photography as an art form learned in ARTS 1710 Fundamentals of Photography 1. Composition, exposure and camera fundamentals are covered. Students are introduced to darkroom techniques to further enhance the capability of personal expression available in the medium. The class explores film development, contact printing and enlarging. Students develop skills to produce high-quality black and white 8"x10" gelatin silver photographs. (Prerequisite(s): ARTS 1710 Fundamentals of Photography 1 with a grade of "C" or better) (MnTC: Goals 6) 3C/2/1/0

ARTS 1712 Fundamentals of Photography 3

Fundamentals of Photography 3 is an advanced photography course. The student will continue to explore composition, exposure, camera work and advanced darkroom techniques which will further enhance the capability of personal expression available in the medium. Ultimately, the student will recognize their own creative style and be able to set goals to achieve their photographic aspirations. We will discuss professional presentation of artwork, explore professional practices in photography, experiment with advanced darkroom techniques, and produce a portfolio of high quality black and white gelatin-silver photographs. (MnTC: Goal 6) 3C/3/0/0

ARTS 1720 Art Appreciation

Pyramids to Picasso – a survey of great works of art of Western Civilization. This is an introductory "learning to look" course with the objective of developing students' ability to see, understand and enjoy the visual arts. Examples of painting, sculpture, architecture, many of which will already be familiar to students, will be viewed, discussed and analyzed in class. We will then go out and take at look at the real thing by taking a walking tour of downtown Saint Paul and visiting the Minneapolis Institute of Arts. (MnTC: Goal 6 & 8) 3C/3/0/0

ARTS 1730 Drawing 1

This course introduces a variety of drawing media in studies of the figure, still life, architecture and nature. Emphasis is placed on increasing skills and the acquisition of a drawing style. (MnTC: Goal 6) 3C/2/1/0

ARTS 1731 Drawing 2

This course continues the development of skills and techniques learned in Drawing 1. The course emphasizes observing relationships, line and value to enhance experimental and personal expression; introduces techniques for drawing in color, incorporates figure drawing, and includes the study of influential artists throughout the history of art concentrating on contemporary means of expression. Students design art projects and complete a portfolio. (Prerequisite(s): ARTS 1730 Drawing 1 with a grade of "C" or better) (MnTC: Goal 6) 3C/2/1/0

ARTS 1740 Introduction to Painting

This course will introduce students to the materials and techniques of oil painting. The course will begin with the basics of how to properly prepare a surface to be painted, how to organize the palette and how to mix pigments. Ways to develop a painting are introduced: wipeouts, monochromes, direct painting and indirect painting. There will be a strong focus on color development in a painting and "color theory" will be discussed. The course will focus on different ways of dealing with space or depth in a painting and all techniques will be introduced with a hands-on demonstration. Field trips will include the Minneapolis Institute of Art and the Museum of Russian Art in Bloomington. Students will be required to complete a written analysis of a single painting at each museum. Influential painters from throughout the history of art will be studied as they pertain to each project. (MnTC: Goal 6) 3C/3/0/0

ARTS 1760 World Art

What would you see if you suddenly found yourself in China, Nigeria, India or Mexico? How would the world look to you? For many of us, it would probably look very strange. One of the many ways to make our world familiar to us, whether we travel or not, is to try to understand a culture's visual expression in architecture, sculpture, painting and other media. This class will view slides of artwork in a lecture/discussion format. We will then visit the Minneapolis Institute of Arts, twice, where we will be able to immerse ourselves in the cultures studied by examining the original artworks produced by these cultures. (MnTC: Goals 6 & 8) 3C/3/0/0

ARTS 1770 American Art

Art and architecture in America reflects the visual experiences of the many groups of people who, over time, have left a rich artistic heritage. As a part of the course, students analyze works of art representing diverse perspectives and ideas within an historical framework. Among subject areas to be considered are the following: Native American art, American landscape painting, the evolution of the skyscraper, the influence of American painters on modern art and the contributions to art made by recent immigrants to the Twin cities. Art and architecture field projects are required. (MnTC: Goal 6) 3C/3/0/0

ARTS 1790 History of Photography

This survey course will focus on the art of still photography from the 19th century to the present. There is an emphasis on the work of artists, their processes, and the accompanying aesthetic movements occurring between the announcement of the Daguerreotype in 1839 and the beginning of the twenty-first century. As witnesses of popular culture, students will examine the interaction of photography among other visual art forms, sociology, documentary photography, and photojournalism. The photographic print, as a means of artistic expression, will be discussed including historic, social, and artistic movements. (MnTC: Goal 6) 3C/3/0/0

■ Auto Body

ABDY 1400 Introduction to Auto Body Repair

Personal safety, tool use and maintenance and basic body shop procedures are covered. 3C/1/2/0

ABDY 1410 Auto Body Sheet Metal Repair

Covers basic sheet metal repair on automobiles, as well as tools and equipment used in the repair process. 3C/1/2/0

ABDY 1420 Auto Body Repair Techniques

Covers the use of basic hand and power tools and preparation before painting. 3C/1/2/0

ABDY 1430 Introduction to Paint Prep

Focuses on refinishing safety, preparation, tools and equipment used in the application of materials. 4C/0/4/0

ABDY 1440 Advanced Auto Body & Frame Repair Theory

Topics include advanced body and frame theory, use of frame rack and safe use of power equipment as it applies to major collision damage. 2C/1/1/0

ABDY 1450 Collision Repair, Estimating & Shop Management

Identification and calculation of vehicle damage from a collision will be the focus of this course. 2C/1/1/0

ABDY 1460 Auto Body Open Lab

Flexible lab hours are available for various auto body repair projects. One to four credits as elective for AUTO 2440 Auto Body Detailing. 4C/4/0/0

ABDY 1510 Advanced Body & Frame Repair

Covers the repair of major collision damage. The course will focus on using measuring and strengthening equipment. 3C/1/2/0

ABDY 1520 Paint & Color Matching Techniques
Emphasizes overall refinishing, including color matching and all types of paint problems. 4C/2/2/0

ABDY 1530 Paint Finish & Detailing
Covers automotive finishes and how to detail them. 4C/2/2/0

ABDY 1540 Auto Body Specialization Finishes
Application of special automotive finishes used on today's automobile is emphasized in this course. 4C/2/2/0

ABDY 1550 General Auto Body Detailing
Detailing of automobiles after they leave the paint shop is the focus of this course. 4C/2/2/0

ABDY 1560 Alignment & Brakes for Auto Body
Covers alignment and brakes, how that applies to auto body collision damage and how repairs are made. 2C/1/1/0

ABDY 1570 Air Conditioning & Auto Electric for Auto Body
Covers the repair of air conditioning and electrical components as it applies to auto collision damage. 3C/1/2/0

ABDY 1581 Welding—Auto Body 1
Covers welding equipment used in auto body repair and its safe and correct use. 2C/1/1/0

ABDY 1582 Welding—Auto Body 2
Emphasizes the types of welding used on automobiles and the type of basic welding joints. 3C/1/2/0

■ Auto Service

AUTO 1410 Trade Knowledge
Covers the examination and use of safety equipment in an automotive shop. Communication skills and general knowledge of the trade and procedures used in operating an automotive shop are also covered. (Prerequisite(s): Admission to the Auto Service Program) 3C/0/3/0

AUTO 1420 General Auto Service
Covers correct procedures for servicing vehicles, shop safety and the use of service manuals and bulletins. Automotive tools and equipment and minor service will be emphasized. (Prerequisite(s): AUTO 1410) 3C/0/3/0

AUTO 1430 Brakes
Covers the basic principles of the brake system. Emphasis will be placed on operation, diagnosis and repair of common types of braking systems. (Prerequisite(s): AUTO 1420) 4C/0/4/0

AUTO 1440 Alignment & Suspension
Covers the study of suspension and steering systems. The student will inspect, repair and adjust the suspension and steering systems on today's cars and light trucks. (Prerequisite(s): AUTO 1430) 5C/0/5/0

AUTO 1510 Clutch/Driveline Manual Transmission
Standard automotive and light truck clutches are covered. Content includes design, adjustment, overhaul, diagnosis and repair on mechanical and hydraulic clutch systems. This course also covers operation and proper repair procedures of current manual transmissions used in late model vehicles. (Prerequisite(s): AUTO 1430) 3C/0/3/0

AUTO 1520 Four Wheel Drive Differential
Emphasizes the operation and proper repair procedures of current transfer cases hubs and differentials in four wheel drive vehicles. (Prerequisite(s): AUTO 1510) 2C/0/2/0

AUTO 1530 Basic Electrical & Battery
Covers basic fundamentals of electricity and electronics, circuits, magnetism, resistance, coils, instruments, diodes and solid-state devices. Battery charging and testing is included. 3C/0/3/0

AUTO 1540 Basic Tune-Up
Covers instruction on operation of the ignition system and maintenance of the ignition and fuel systems. This course focuses on the replacement of maintenance items such as spark plugs, distributor cap and ignition wire and air, fuel and emission filters. (Prerequisite(s): AUTO 1530) 3C/0/3/0

AUTO 1550 Heating & Air Conditioning
Focuses on the principles of heating and air conditioning. Topics including various A/C types, the diagnoses of malfunctions and tests/repairs are studied. Lab work is on actual systems. During the lab, the student will test and repair: vacuum and electrical controls, air flow distribution and heater system controls. (Prerequisite(s): AUTO 1530) 4C/0/4/0

AUTO 2410 Starting & Charging Systems
Covers overhaul of components such as starters and alternators. Complete system diagnoses and repair are also included. (Prerequisite(s): AUTO 1530) 3C/0/3/0

AUTO 2420 Electrical Accessories
Covers the operation and servicing techniques of chassis wiring, lights, instruments and headlight aiming. How to read and interpret wiring diagrams will also be included. (Prerequisite(s): AUTO 1530) 3C/0/3/0

AUTO 2430 Engine Theory & Repair
Covers disassembly, inspection, repair and reassembly of the internal combustion engine. Repair procedures such as the replacement of piston ring, engine bearings and valve grinding are covered. (Prerequisite(s): AUTO 1540) 4C/0/4/0

AUTO 2440 Engine Installation
Covers the removal and installation of complete engine assemblies, transfer of parts and removal and installation of accessories. 2C/0/2/0

AUTO 2450 Introduction to Auto Computers
Covers the operation of computer systems of engines using feedback carburetors and fuel injection. Sensors and actuators that operate in the system will be studied and tested. (Prerequisite(s): AUTO 1530) 2C/0/2/0

AUTO 2510 Fuel Systems
This course covers the fundamentals of carburetor and intake systems, maintenance and repair of the fuel system and emission controls. It also covers the use of 4 gas and 5 gas analyzers, scanners and other test equipment to troubleshoot and repair problems in computerized fuel systems. (Prerequisite(s): Auto 1540) 5C/0/5/0

AUTO 2520 Engine Driveability
Covers application of knowledge and skills gained when studying engine, fuel, ignition and computer systems. (Prerequisite(s): AUTO 1540, AUTO 2511 and AUTO 2512) 3C/0/3/0

AUTO 2530 Automatic Transmission Theory
Covers the basics of torque converters, planetary gear sets, clutches, bands and hydraulics. 2C/0/2/0

AUTO 2540 Automatic Transmission Diagnosis & Repair
Covers automatic transmission and transaxle diagnoses and service. Trouble shooting and repair procedures will also be covered. (Prerequisite(s): AUTO 2530) 3C/0/3/0

AUTO 2550 Specialized Lab 1
Covers the content goals listed or any other goals that the student and the instructor agree upon. The purpose of the course is for students to specialize in an area they prefer. (Prerequisite(s): Completion of all other listed courses) 2C/0/2/0

■ Biology

BIOL 1725 Environmental Science
In this course the student will learn basic scientific and ecological principles and then use this knowledge to gain an understanding of how the earth works, how humans are affecting the earth, and possible solutions for the environmental problems we face. Each student should leave this course with a balanced understanding of the environment as it is today, both positive and negative factors, and with the ability to think critically and scientifically about these factors and about proposed solutions to environmental problems. Topics covered will include basic ecological principles, human population growth, biotechnology, human impacts on the climate, energy resources, and waste management. Additional topics may be covered as time permits. Classes may include group discussion, videotapes, visiting speakers and presentations. Laboratory may consist of computer simulations, outdoor lab sessions, group experiments, and other activities. Traditional and online sections are available. (MnTC: Goals 3 & 10) 4C/3/1/0

BIOL 1730 Human Body Systems
This course covers body organization and the basic anatomy and physiology of cells, tissues, special senses and the 11 organ systems of the body. Although difficult, it is not as in-depth as Human Anatomy and Physiology 1 and 2 (BIOL 2721 & 2722). Laboratory activities, including dissection of a preserved animal and animal organs, are part of the course. This course is required for the MLT program but does not fulfill requirements for the LPN or RN programs. (MnTC: Goal 3) 3C/2/1/0

BIOL 1740 General Biology 1: The Living Cell
This course is a study of biological processes including cell chemistry, metabolism, reproduction, genetics and complex cell physiology. The laboratory component includes the application of concepts through observation, experimentation and problem analysis. This course is intended for biology majors and students requiring a strong biological background for selected majors, including nursing and other allied health fields and interested non-majors. BIOL 1740 is a prerequisite for BIOL 2721 Human Anatomy & Physiology 1, BIOL 1750 General Microbiology and is a recommended prerequisite for BIOL 1745 General Biology 2. (Prerequisite(s): COMM 0722 with a grade of "C" or better, or concurrent enrollment or appropriate assessment score.) (MnTC: Goal 3) 5C/4/1/0

BIOL 1745 General Biology 2: The Living World
This course is a study of biological processes including a survey of life forms (viruses, bacteria, protists, fungi, plants and animals), their evolution and ecology. The laboratory focuses on organism taxonomy, classification and mammalian systems, including comparative anatomy, organism dissections, ecological interrelationships of organisms and their environment and independent biome research projects. Some lab activities do require dissection of preserved animals, including a rat. (Prerequisite(s): BIOL 1740 General Biology 1 with a grade of "C" or better, or instructor permission) (MnTC: Goal 3) 5C/4/1/0

BIOL 1750 General Microbiology
General Microbiology is an introductory course covering bacteria, fungi, protozoa, algae and viruses. Structure, metabolism, growth requirements, genetics and replication of these microbes will be compared. Emphasis will be placed on the role of microbes in human disease and the function of the immune system in microbial control and balance. Environmental and industrial microbiology will also be discussed. Laboratory sessions will be structured to provide a hands-on introduction to common laboratory techniques and will focus on topics covered in lecture discussions. Safety and infection control will be stressed. (Prerequisite(s): BIOL 1740 General Biology 1: The Living Cell with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

BIOL 1760 Nutrition
This course explores the ever-changing topic of nutrition science beginning with the fundamentals of a healthy diet and the role that carbohydrates, proteins, fats and minerals play in maintaining health and fitness. Students explore such topics as media quackery, digestive and eating disorders, lifecycle nutritional needs, the dietary demands of the daily food choices for compliance with dietary guidelines as well as determining their risk for diabetes, cardiovascular disease and osteoporosis. The course also explores the issue of hunger and the global environment including the impact of personal choice, organic farming and bioengineering on sustaining the planet and its people. Traditional and online sections are available. (MnTC: Goal 3) 3C/3/0/0

BIOL 1771 Medical Terminology 1
This course covers how bio/medical words are constructed from Greek and Latin word elements (roots, combining forms, prefixes and suffixes). Definitions, spelling, pronunciation and applications of these terms will be stressed. This course is ideal for students interested in a health career. 1C/1/0/0

BIOL 1772 Medical Terminology 2
In this course students will recognize and build medical terms after learning the meaning of word parts. The course will focus on the application of medical terminology to various organ systems, diseases and medical interventions. 1C/1/0/0

BIOL 1780 Contemporary Issues in Human Biology
With the completion of the human genome project and with the swift pace of advances in modern biology and medicine, there are many important ethical and scientific issues that touch our everyday lives. In this course we will focus on five of these contemporary issues: stem cell research, gene therapy and genetic testing, reproductive technologies, environmental toxins and teratogens, and emerging diseases. Students will learn the basic biological concepts that are necessary to understanding each issue, as well as explore the many ethical dilemmas surrounding each issue. This course is intended for the non-major biology student. A substantial amount of writing will be required in the course. The class format is web enhanced. **The lecture portion will take place as an online course** and lab will involve in-class meetings once per week. (MnTC: Goals 3 & 9) 3C/2/1/0

BIOL 1785 Biology of Women
This course explores the biology of women and is designed to provide a critical review of perspectives that pertain to both men and women. Topics include the study of reproductive anatomy and physiology, pregnancy and fetal development and issues related to women's physical health such as contraception, cancer and menopause. In addition, the course will examine the role of women as both consumers and providers of healthcare as well as promote an understanding of women's achievements, contributions and experiences in medical professions. (MnTC: Goals 3 & 9) 3C/3/0/0

BIOL 2721 Human Anatomy and Physiology 1
This course covers body organization, tissues and some of the human body systems (integumentary, skeletal, muscular and nervous), plus the special senses, integrating both the anatomy and physiology of each organ system. Dysfunctions may be included, but the body in homeostasis is stressed. Two hours of lab per week are included. Some lab activities involve the dissection of preserved animal organs. (Prerequisite(s): BIOL 1740 General Biology 1: The Living Cell with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

BIOL 2722 Human Anatomy and Physiology 2
This course covers those body systems and topics not included in Human Anatomy and Physiology 1: cardiovascular, respiratory, lymphatic, immune, digestive, endocrine, urinary and reproductive systems. The anatomy and physiology of each organ system is integrated. Dysfunctions may be included, but the body in homeostasis is stressed. Two hours of lab per week are included. Many lab activities involve dissection of a preserved animal and animal organs. (Prerequisite(s): BIOL 2721 Human Anatomy and Physiology 1 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

■ Business

BUSN 1410 Introduction to Business
Offers an introduction to the United States business system. Students will explore economic principles, human resources, business ethics, marketing and financial principles. 3C/3/0/0

BUSN 1440 Marketing Principles
Students will develop an understanding of the basic principles of marketing. Students will examine core marketing concepts (needs, wants, demands) and the elements used in developing a marketing plan, including consumer behavior principles, product development, pricing strategies, advertising, sales promotion, public relations, personal selling and product distribution. Current marketing trends will be discussed. 3C/3/0/0

BUSN 2450 Management Fundamentals
The course includes the history of management theory with emphasis on forces of change that have resulted in a changing view of the business world for managers. Principle management functions covered are planning, organizing, leading and the process of control as an information feedback function for increasing productivity. Emphasis is on the integration of all management functions into one effort for visionary, effective and efficient operations. 3C/3/0/0

BUSN 2455 Essentials of Entrepreneurship and Small Business Management
In this course the student will learn the essential skills needed to start and manage a successful new business venture. Topics include: the challenge of entrepreneurship, building a business plan, marketing and financial issues with a start up company and how to gain the competitive advantage. 3C/3/0/0

BUSN 2460 Entrepreneurship Resources
In this course the student will learn the essential resources needed to start and manage a successful new business venture. Topics include: how to work with the small business administration; free federal and state resources and how to choose which resources are most valuable when starting a new business. 2C/2/0/0

BUSN 2465 Business Ethics
This course introduces students to ethical issues and concepts as they relate to business and as they impact society, the economy and the environment. Students will analyze various approaches to making ethical decisions through case studies. Topics range from the role of the government to corporate global businesses. Both national and international ethics will be discussed. 3C/3/0/0

BUSN 2470 Legal Environment of Business
This course covers basic information about the various classifications of the law and the rights and responsibilities imposed on the business community by our legal system. The course introduces students to the legal system and its impact on the individual, the business environment and upon society as a whole. Areas of study include basic laws, contracts, negligence, product liability, employment law, alternative dispute resolution and business entities. 3C/3/0/0

BUSN 2472 Business Negotiation Skills
Covers the techniques and unique circumstances needed for the negotiation of prices for the business environment. The course will guide students through the areas of risk negotiations, bargaining concepts, strategy and tactics for successful contract negotiations. 3C/3/0/0

BUSN 2475 Business Decisions and Project Management
This course builds upon the foundations of project management and analyzes project management business decisions. Students evaluate the strategic role of projects in organizations and how project portfolio management can be used to guide an organization's project success. The course is designed to allow the student to use tools and techniques to study business processes, financial analysis and risk models in developing and executing projects in a business. The purpose of the course is to understand the underlying principles of project management from a business perspective. 4C/4/0/0

BUSN 2480 Business Management Internship
A cooperative work-study program between Saint Paul College-A Community & Technical College Business Management degree program and a business facility. This elective course allows the student to experience a closely supervised job situation that is related to the program. (Prerequisite(s): Instructor approval) 3C/0/0/3

■ Business Logistics Management

BSLM 1410 Transportation Management
Introduction to basic transportation concepts and the relevance of transportation in our economy. Characteristics of each mode of transportation including rail, highway, carrier pricing, pipelines, air and water will be discussed and evaluated. 3C/3/0/0

BSLM 1510 Distribution Management
Designed to clarify and define the primary role of warehousing and logistics in today's economy. This course includes inventory control, materials handling equipment, just-in-time productivity and quality control. 3C/3/0/0

BSLM 2420 Supply Chain Management
Supply chain management provides training in the areas of efficient administration and control of logistical components: transportation, inventory, packaging, warehousing and materials handling as well as customer service and their eventual integration into a logistics system. 4C/4/0/0

BSLM 2450 Purchasing Principles and Applications
The course covers the broad overview of the objectives of purchasing, its authority, responsibility, management function and its expectations. Students learn how and why the purchasing function has far reaching effects on a company's profit or loss. Purchasing is a dynamic business function and is important in controlling costs in large dollar expenditures. The Purchasing department deals Production, Engineering, Marketing, Sales, Logistics, Stores, Inventory Control, Transportation, Quality Assurance and Finance. The primary objective of purchasing is to buy the right materials, of the right quality, in the right quantity, at the right time, at the right price, from the right source. 3C/3/0/0

BSLM 2491 Business Logistics Management Internship
Students who participate in an internship gain first-hand knowledge in the industry under the guidance of a faculty member and a worksite supervisor. Students must state their goals and planned outcomes to participate in an internship. (Prerequisite(s): Instructor approval) Variable 1–3 credits

BSLM 2497 Business Logistics Management Special Topics
The intent of this course is to allow flexibility in providing learning experiences to meet a special need of the student, the major program and the College. (Prerequisite(s): Instructor approval) Variable 1–3 credits

■ Cabinetmaking

CABT 1410 Blueprint Reading for Cabinetmaking
Introduces the student to: blueprint reading, building trade drawings, architectural graphics, and symbols used in the trade, as well as an understanding of what a drafting person does. 3C/2/1/0

CABT 1415 Wood Technology
This course will introduce students to the materials and finishes used in cabinetmaking. Students will learn to identify hardwoods and softwoods along with manufactured panel products, and the grading of these products. Students will also learn about abrasives, adhesives, fasteners, and clamping devices. The second half of this course will cover the types of finishes used in cabinetmaking and how they are applied. 3C/1/2/0

CABT 1420 Cabinet Shop Safety
This course will introduce the students to shop safety, identification, care and use of hand tool, and portable power tools. The course offers safety demonstrations on all power equipment and safety tests are performed on each machine. Basic knowledge of power tools and hand tools is required. 3C/1/2/0

CABT 1430 Framed Cabinetry
This course introduces the student to faceframe base and upper cabinetry. Students will learn the design, planning, and construction processes of building faceframe cabinets. The student will then apply these techniques by building a project. 4C/1/3/0

CABT 1511 Shaper Technology
This course will instruct the student how to safely set up and operate a shaper. Different operations, techniques, and types of cutters are covered. Students will learn to calculate and machine parts for raised panel doors, and also how to make moldings on the shaper. Projects will include making raised panel doors and moldings. 3C/1/2/0

CABT 2410 Laminates and Countertops
This course introduces students to laminates/veneers and the tools used for laminating, then covers laminate countertops. Students will learn to measure, order material, layout, and fabricate laminate countertops. Solid surface, stone products, and other types of countertops are also covered. Various projects will give the students hands-on experience. 4C/1/3/0

CABT 2430 Edgebanding and Boring Machines
This course covers the theory and operations of edgebanders and boring machines. The student will learn how to safely set up and operate the machines for various applications. Machine maintenance and tooling is covered. A series of projects will give the students hands-on experience. 4C/1/3/

CABT 2440 Frameless Cabinetry
This course introduces the students to frameless cabinetry which is also known as European cabinetry, or 32mm cabinetry. Hardware used in frameless cabinets will be covered and then students will learn design, layout, and build frameless cabinets using the boring machines and edgebanders. Commercial fixtures used in retail will also be covered in this course. The students will build both a base and an upper utility cabinet using the techniques learned. 4C/1/3/0

CABT 2510 CAD/CAM/CNC
This course will introduce the students to computer operated machinery. The student will learn to layout and draw projects using the computers, apply tool pathes for various operations, and set up a cnc router to perform operations. 4C/2/2/0

CABT 2700 Cabinetmaking - Open Lab
This course is for students with prior experience with woodworking terminology and shop safety; students wanting to upgrade their skills and knowledge to help them in the Cabinetmaking industry. The student must be able to demonstrate the use of hand tools and portable power equipment. The student must meet with the instructor to see whether the student has the correct criteria in the Cabinetmaking area. New students must meet with the instructor prior to registering for the class. Variable 1-2 Credits

■ Carpentry

CARP 1410 Project Estimating
Review basic arithmetic, algebra and geometry as it relates to carpentry. Students will learn construction terminology and estimate building costs. 3C/3/0/0

CARP 1420 Construction Blueprint Reading
Covers reading and interpreting blueprints used in the construction industry. Lines, abbreviations, symbols, parts of the blueprints, specifications and isometric drawings will be included in this class. 2C/2/0/0

CARP 1430 Introduction to Carpentry & Hand Tools
Learn to make drawings and sketches used in construction and learn to use basic carpentry hand tools. (Prerequisite(s): Concurrent enrollment in CARP 1420) 3C/1/2/0

CARP 1510 Intermediate Carpentry
Safety, job site working conditions and trade requirements, construction materials, building codes and residential construction concepts are included in this class. (Prerequisite(s): CARP 1410, CARP 1420, & CARP 1430) 5C/4/1/0

CARP 1521 Building Technology
Covers practice on the safe use of portable power tools and stationary shop equipment. Students gain familiarity with materials used in the construction industry and procedures used in the erection of residential and light commercial buildings. (Prerequisite(s): Concurrent enrollment in CARP 1510) 5C/4/1/0

CARP 1522 Power Tool & Shop Procedures
Continuation of CARP 1521. Includes practice on the safe use of portable power tools and stationary shop equipment. Students gain familiarity with materials used in the construction industry and procedures used in the erection of residential and light commercial buildings. (Prerequisite(s): Concurrent enrollment in CARP 1510) 5C/1/4/0

CARP 2410 Advanced Carpentry
Covers the methods and features of the instruments used by carpenters in laying out buildings. Cabinet installation, job seeking, soil types and excavations, properties of concrete and equipment and procedures used in the erection of commercial construction projects are included in this class. (Prerequisite(s): CARP 1510, CARP 1521, CARP 1522) 6C/4/2/0

CARP 2421 Fieldwork and Carpentry Procedures
Provides hands-on experience with the optic and electronic instruments used in laying out buildings. Erect scaffold systems and concrete forming systems used on commercial building projects. (Prerequisite(s): Concurrent enrollment in CARP 2410) 5C/1/4/0

CARP 2422 Carpentry Concrete Technology and Installation
Continuation of CARP 2421. Get hands-on experience with the optic and electronic instruments used in laying out buildings. Erect scaffold systems and concrete forming systems used on commercial building projects. (Prerequisite(s): Concurrent enrollment in CARP 2410) 5C/1/4/0

■ Chemical Technology

CHMT 1500 Chemical Laboratory Safety
This course covers policies, procedures, laboratory equipment, personal protective equipment and work practices that are capable of protecting laboratory personnel from the health hazards presented by hazardous chemicals used in laboratories. Topics include personal protection, emergency procedures, the use of material safety data sheets, chemical hazards, chemical handling and safe personal work practices. (Prerequisite(s): CHEM 1711) 2C/2/0/0

CHMT 1595 Chemical Technician Seminar
This course is designed to introduce students to the field of chemical laboratory science and the role of the Chemical Laboratory Technician. The course includes a description of the content of the Chemical Laboratory Technician program and the expectations and responsibilities of students. The course explores possible careers for chemical laboratory technicians and the nature of laboratory work. Students will use this information to evaluate their own aptitudes and interests relative to career opportunities in chemical technology and outline their career paths as chemical technologists. 2C/2/0/0

CHMT 1700 Introduction to Analytical Chemistry
This course presents the theory and practice of basic chemical preparation and analysis as performed in research and/or industrial settings. Topics include preparation and handling of samples, gravimetric methods, titrations and electrochemical methods. Students will practice laboratory safety, detailed and accurate record keeping, statistical evaluation of results and report writing. (Prerequisite(s): CHEM 1711) 4C/1/3/0

CHMT 1790 Environmental Rules and Regulations
This course presents an overview of federal and state environmental regulations and agency rules that regulate discharges to air, water and land and the application to chemical laboratory operation. Laws are examined with respect to the reason the regulation is needed, what the law does and how it does it. This includes the storage and disposal of chemicals according to federal and state Environmental Protection Agencies. (Prerequisite(s): CHEM 1711) 2C/2/0/0

CHMT 2560 Laboratory Basic Skills: Troubleshooting for Analytical Instrumentation
This course covers basic operating principles of laboratory instrumentation and the techniques and documentation required for troubleshooting analytical instrumentation in an industrial setting. This includes a systematic approach to diagnosis of instrument failure, repair and maintenance procedures, hands-on practice servicing instruments and documentation of the maintenance or repair. (Prerequisite(s): CHMT 1700) 2C/1/1/0

CHMT 2590 Chemical Laboratory Internship
Second-year students will work part-time in an industrial or research laboratory while attending school to gain professional experience in laboratory methods, management, quality control and safe laboratory practices. This experience will relate to the program goals and must be approved by the program advisor. (Prerequisite(s): CHEM 1712, CHMT 1700) 3C/0/0/3

CHMT 2600 Organic and Biochemical Analysis Methods and Applications
This course, designed for Chemistry Laboratory Technology students only, is an introductory organic chemistry course that reviews covalent bonding and acid-base theory and explores synthesis and identification of functional groups, stereochemistry, reaction mechanisms, for free radicals, electrophiles, nucleophiles, additions and eliminations. Biochemical and industrial applications are studied to emphasize the importance of these materials in present everyday lives. The laboratory aspect to this course emphasizes specific skill development necessary for use in various methods of isolating, purifying, synthesizing and identifying organic functional groups in organic and biochemical molecules (carbohydrates, amino acids and proteins). Also, an introduction to molecular spectroscopy and separation methods will be covered to aid in the identification process. (Prerequisite(s): CHEM 1712, CHEM 2800) 4C/3/1/0

CHMT 2610 Chemical Analysis and Chromatography Methods

This course, designed for Chemistry Laboratory Technology students only, combines the theory and practice of chemical analysis and separation methods using both modern and classical gas liquid chromatography. It emphasizes the practice of chemical preparation and analysis as performed in a research and/or industrial setting. Topics include, but are not limited to, preparation and handling of samples, gravimetric methods, titrations and electrochemical methods. The laboratory part of the course covers, in detail, separation theory and applicable instrumental functions involving manual setup and data treatments, as well as computer interfacing technology for data collections and processing. Students will practice laboratory safety, detailed and accurate record keeping, statistical evaluation of results and report writing. (Prerequisite(s): CHEM 1712, CHMT 1595 & MATH 1730 College Algebra) 4C/1/3/0

CHMT 2700 Inorganic Chemical and Quantitative Analysis Methods and Applications

This course, designed for Chemistry Laboratory Technology students only, is an extensive study of ionic equilibria, kinetics, thermodynamics, coordination compounds, electromistry and statistical analysis of data collected from applications in biology, medicine, material science, food production, geology, ecology and other science areas to determine the composition of a specific sample. The laboratory aspect to this course emphasizes specific skill development necessary for use in determining precision and accuracy for gravimetric, titrimetric, electrochemical, potentiometric, complexometric, electrogravimetric, coulometric and thermometric analysis of industrial, biochemical, environmental samples using procedures related to lecture content. (Prerequisite(s): CHEM 1712, CHMT 1595, CHMT 2600, CHMT 2610 & MATH 1730 College Algebra) 4C/3/1/0

CHMT 2710 UV–Visible Absorption and Emission Spectroscopy and Thermal Analysis

This course, designed for Chemistry Laboratory Technology students only, emphasizes the theory, instrument design and functions of UV-Visible and atomic absorption and emission spectrophotometers, as well as the theory, design and functions of instruments using infrared, nuclear magnetic resonance and mass spectroscopy. The course also covers thermal analysis (TA) methods in which the physical property of a substance is measured as a function of temperature while the substance is subjected to a controlled temperature program. The course seeks to introduce and equip students with the necessary skills to perform conventional TA techniques such as differential scanning calorimetry (DSC), differential thermal analysis DTA), thermo-gravimetric analysis (TGA) and thermo-mechanical analysis (TMA). The laboratory will place strong emphasis on instrument calibration and operation, sample preparation and analysis, data interpretation and evaluation and reporting of results. (Prerequisite(s): CHEM 2610) 4C/2/2/0

CHMT 2800 Hazardous Materials and Fire

This course explores the concepts and methods of detection, control and mitigation of hazardous materials incidents. This includes the types of chemical and fire hazards, potential causes of fire, proper storage of chemicals, methods to prevent fires and hazards, laboratory fire fighting equipment, hazardous material clean-up and disposal and incident reporting and mitigation. (Prerequisite(s): CHEM 1711) 2C/2/0/0

CHMT 2895 Chemical Technician Advanced Seminar

This course provides students with an opportunity to design

and carry out a science research project under the supervision of a faculty advisor. A research report will be prepared that includes a library search, problem identification, procedure documentation, data, data analysis and conclusion. Evaluation will be handled by a team of faculty and/or experts. Credits awarded will be based on the nature of the project and its evaluation. (Prerequisite(s): CHMT 2710) 2C/2/0/0

■ Chemistry

CHEM 1700 Chemistry Concepts

This laboratory science course covers the basic concepts of chemistry. Topics include measurements and calculations used in chemistry; the general properties of chemicals; physical characteristics of matter, atoms and elements; basics of chemical bonding; chemical equations and their uses; gases, liquids and solids, solutions and acids and bases. The course relates chemistry concepts to applications in everyday life. The course is intended for students who have not had a high school chemistry course. (Prerequisite(s): MATH 1510 Introductory Algebra with a grade of "C" or better, or appropriate assessment score) (MnTC: Goal 3) 4C/3/1/0

CHEM 1711 Principles of Chemistry 1

This course uses the scientific method to study matter, what matter is comprised of and how matter changes. Basic chemical theory and applications are covered with an emphasis on the principles and theories of atomic and molecular structure, periodic properties of elements; thermochemistry, reaction stoichiometry; behavior of gases, liquids and solids; molecular and ionic structure and bonding; organic chemistry and polymers; energy sources and environmental issues related to energy use. The lab component includes the application of chemical concepts through observation, data collection, quantitative measurement and problem analysis. Approved safety goggles and a lab apron are required. (Prerequisite(s): MATH 1520 Intermediate Algebra with a grade of "C" or better, or appropriate assessment score) (MnTC: Goal 3) 4C/3/1/0

CHEM 1712 Principles of Chemistry 2

This course is a continuation of CHEM 1711 Principles of Chemistry 1 with an emphasis on chemical kinetics; radioactive decay; chemical equilibrium; solutions; acids and bases; solubility; second law of thermodynamics; electrochemistry and corrosion; descriptive chemistry of the elements; coordination chemistry; biochemistry; and applications of chemical principles to environmental problems. The lab component of this course provides students with the opportunity to apply chemical concepts through observation, data collection, quantitative measurement and problem analysis. Approved safety goggles and a lab apron are required. (Prerequisite(s): CHEM 1711 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

■ Child Development

CHDV 1190 Entry-Level Training Modules

This course is geared toward new providers caring for children from birth to school-age. This course provides an introduction to working in early childhood programs. This course contains four modules: Health/Safety, Child Development, Guidance/Classroom Practices and Professional Relations. After completing this course, students will have a basic knowledge of standard procedures, policies and practices that will need to be followed in most early care and education settings. 1C/1/0/0

**CHDV 1200 Professional Relations in
Early Childhood Careers**
Explores career opportunities for working with children and
investigates a variety of child development programs. This
course also examines job requirements, duties, regulations and
issues, skills and personal characteristics for becoming
successful professionals in early childhood settings. 3C/3/0/0

CHDV 1210 Foundations of Child Development
Provides an overview of typical and atypical child development
across cultures, from prenatal through school age including
physical, social, emotional, language, cognitive, aesthetic and
identity/individual development. It integrates developmental
theory with appropriate practices in a variety of early childhood
care and education settings. 3C/2/1/0

CHDV 1220 Child Safety, Health & Nutrition
Guides the student in obtaining skills needed to establish and
maintain a physically and psychologically safe and healthy
learning environment for young children. Topics include
preventing illness and accidents, handling emergencies,
providing health, safety and nutritional educational experiences,
meeting children's basic nutritional needs, child abuse and
current health-related issues. THIS COURSE DOES NOT
INCLUDE CPR OR FIRST AID CERTIFICATION. 4C/3/1/0

**CHDV 1230 Guidance: Managing
the Physical/Social Environment**
Provides an exploration of the physical and social environments
that promote learning and development for young children. It
includes an introduction to basic child guidance techniques for
individual and group situations. Emphasis is on problem-
prevention and positive guidance strategies: recognition,
communication, limit setting, problem solving and behavior
modification. Students apply their knowledge of the
environment's role in an actual work setting. 4C/3/1/0

CHDV 1310 Infant & Toddler Development & Learning
Provides an overview of infant and toddler theory and
development in home or center-based settings. Students will
integrate knowledge of developmental needs, developmentally
appropriate environments, effective caregiving, teaching strategies
and observation methods. (Prerequisite(s): CHDV 1210) 4C/3/1/0

CHDV 1312 Preschool Development & Learning
Provides an overview of pre-school theory and development in
home or center-based settings. Students will integrate knowledge
of developmental needs, developmentally appropriate
environments, effective caregiving, teaching strategies and
observation methods. (Prerequisite(s): CHDV 1210) 4C/3/1/0

CHDV 1314 School Age Development & Learning
Provides an overview of school-age theory and development in
home or center-based settings. Students will integrate
knowledge of developmental needs, developmentally
appropriate environments, effective caregiving, teaching
strategies and observation methods. (Prerequisite(s): CHDV
1210) 4C/3/1/0

CHDV 1316 Mixed Age Development & Learning
Provides an overview of mixed-age theory and development in
home or center-based settings. Students will integrate
knowledge of developmental needs, developmentally
appropriate environments, effective caregiving, teaching
strategies and observation methods. (Prerequisite(s): CHDV
1210) 4C/3/1/0

CHDV 1340 Planning & Implementing Curriculum
Examines the role of the teacher in early childhood settings. It
applies the knowledge of child development as it relates to
individual children, communities, curriculum and
communication activities. (Prerequisite(s): CHDV 1210 and
CHDV 1230) 3C/3/0/0

CHDV 1910 Internship 1
Provides an opportunity to apply knowledge and skill in an
actual child development setting. Students will observe and
assess children's behavior; facilitate free play; implement adult-
directed learning experiences; and maintain professional
relationships. (Prerequisite(s): Instructor approval) 4C/1/0/3

CHDV 1940 Internship 2
Provides an opportunity to review and demonstrate competence
in skills required in Internship 1. Students may choose to apply
knowledge and skill in a special child development setting.
Students work with an instructor to identify specific course
goals and to select an internship site. (Prerequisite(s): Instructor
approval) 1-3C/0/0/1-3

CHDV 2320 Profiles of the Exceptional Child
Provides an overview of development and learning experiences
for children with special needs in integrated child development
settings. Students integrate knowledge of developmental needs,
developmentally appropriate environments and effective
teaching methods. (Prerequisite(s): CHDV 1210) 3C/2/1/0

CHDV 2500 Shadow Study
Provides an opportunity to shadow a master teacher in a child
development setting. Course goals are based on individual need.
Emphasis may include observation of various child
development settings, adult-child interaction, or the role of a
caregiver. (Prerequisite(s): Instructor approval) 1C/0/0/1

CHDV 2520 Peaceful Classroom
Provides an overview of the effects of violence on the
development and the behavior of young children. Students
explore elements to be incorporated into a Peaceful Classroom.
Students identify behavioral intervention strategies to address
challenging behaviors and create activities to foster
peacemaking skills in children. 3C/3/0/0

**CHDV 2530 Challenging Children:
Behavior Management Strategies**
Helps students understand children's behavior problems and
identify intervention strategies to prevent and resolve problem
behavior, use behavior modification techniques effectively and
design behavior plans. (Prerequisite(s): CHDV 1230) 3C/3/0/0

CHDV 2540 Sensory/Motor Learning Experiences
Provides an overview of sensory and motor learning
experiences. Students integrate knowledge of child
development, learning environments and teaching methods to
promote perception, sensory development, gross motor, fine
motor and self care development. 3C/3/0/0

CHDV 2550 Cognitive/Multimedia Learning Experiences
Provides an overview of cognitive and multimedia learning
experiences in either home or center-based settings. Students
integrate knowledge of child development, learning
environments and teaching methods to promote curiosity,
attention, perception, memory, problem solving, logical
thinking and media literacy. 3C/3/0/0

CHDV 2560 Language & Literature Learning Experiences

Provides an overview of language learning experiences in early childhood settings and a detailed study of literature experiences. Students will integrate knowledge of children's language development, learning environments and teaching strategies to select, plan, present and evaluate literature experiences to children of different abilities and diverse backgrounds. 3C/3/0/0

CHDV 2570 Multi-Cultural Learning Experiences

Provides a general overview of multi-cultural education in child development settings. Students will examine the major approaches to multi-cultural early childhood education, steps to implement multi-cultural curriculum, developmentally appropriate learning experiences, curriculum themes, holidays and celebrations and communication strategies. 3C/3/0/0

CHDV 2580 Creative Development Learning Experiences

Provides an overview of creative/aesthetic learning experiences in either home or center-based settings. Students integrate knowledge of child development, learning environments and teaching methods to promote children's artistic, musical, movement and dramatic abilities. 3C/3/0/0

CHDV 2590 Social-Emotional Learning Experiences

Provides an overview of social and emotional learning experiences. Students integrate knowledge of child development, learning environments and teaching methods to promote emotional development, self-concept, self esteem, social skills, diversity awareness and social studies. 3C/3/0/0

CHDV 2597 Special Topics

Intent of this course is to allow flexibility in providing learning experiences to meet a special need of the student, the major program and the College. (Prerequisite(s): Instructor approval) Variable 1–4 credits

CHDV 2600 Professional Leadership

Prepares students to take an active/advocate role in the child development profession by examining the history, current trends and future of child care and early childhood education. (Prerequisite(s): CHDV 1200) 3C/3/0/0

CHDV 2610 Practicum

Provides an opportunity to apply knowledge and skill in an early childhood setting. Students implement a variety of learning experiences that are developmentally appropriate for and culturally sensitive to a specific age and group of children. (Prerequisite(s): Instructor approval or concurrent enrollment in CHDV 2640) 3C/0/0/3

CHDV 2640 Program Planning

Provides an advanced level of exploration of program management skills for teachers of young children. Emphasis is on organizing, implementing, and evaluating a quality, comprehensive early childhood program plan. 3C/3/0/0

CHDV 2800 Child Development Administration

A course for directors, coordinators, or lead teachers in child development programs that provides an overview of managing a child development organization with emphasis on facilities, health and safety, risk management, record keeping, marketing and administrative styles. (Prerequisite(s): Child Development Careers Diploma and instructor approval) 3C/3/0/0

CHDV 2820 Child Development Financial Management

Provides students interested in child development administration with an introduction to budgeting, financial management and financial record keeping in child development programs. Specific topics include: start-up costs, determining utilization rates, setting/collecting parent fees, identifying break-even points, preparing financial statements and fundraising. (Prerequisite(s): Child Development Careers Diploma and instructor approval) 3C/2/1/0

CHDV 2840 Child Development Staffing & Supervision

Offers students an opportunity to develop advanced level skills in hiring, training, evaluating, coordinating and supervising staff in child development settings. (Prerequisite(s): Child Development Careers Diploma and instructor approval) 3C/2/1/0

CHDV 2860 Advanced Internship-Administration of Child Development Setting

Provides an opportunity for advanced-level child-development professionals to apply knowledge and skill in the administration of a child development setting. (Prerequisite(s): Child Development Careers Diploma and instructor approval) 1C/0/0/1

■ College & Career Planning Success Strategies

CSCR 0741 Individual Career Planning 1

Offers students the opportunity to explore and develop a career plan through a variety of career assessment instruments along with hands on exploration of occupational and program areas. Choice of specific direction to implement a plan is also provided. Class size is limited to provide for individual and small group focus. 1C/0/1/0

CSCR 0742 Individual Career Planning 2

Students are given the opportunity to explore and develop an individual career plan based on results of a variety of career assessment instruments, hands on exploration using career specific tools, equipment and materials and an introduction to ways of gathering career, program and work related information. The student will receive career choice specific information regarding how to implement their individual plan. Class size is limited to provide for individual and small group focus. 2C/0/2/0

CSCR 0750 Career Planning-Looking Beyond High School

This course provides the participant with information about technical training, 2-year colleges, 4-year colleges, financial aid, admissions and considerations to be made when choosing post-secondary training and education. The participant will become aware of program and training requirements through the use of career search systems, career resource materials, Internet use and informational interviewing. Participants will get to know themselves better through the use of aptitude and interest assessments. This course is offered through Saint Paul Connections. 1C/1/0/0

CSCR 1401 Freshmen Experience

This course is designed to help freshman students succeed in their first college experience. Students will learn about college resources, expectations and culture through classroom experiences, site visits and guest lecturers. Focused topics will include college finances, time management techniques, utilizing college technology and resources, understanding student responsibilities and identifying college-level learning strategies and potential barriers to success. 1C/1/0/0

CSCR 1405 College Success Strategies and Career Resources

This course is designed to help students succeed in college and develop career planning skills. Students will learn to study more effectively. Focused topics will include time management, study strategies, note-taking, test-taking, mnemonic devices and college resources. Also, students will gain knowledge of career resources and the career planning process. 2C/2/0/0

CSCR 1406 Enhancing Your Learning Potential

This course is designed to help current students on academic probation identify and develop necessary skills and strategies to enhance learning potential and college success. Focused topics will include college expectations, potential barriers to success, study, learning and communication strategies, learning styles, college resources and online support technology. 2C/2/0

CSCR 1410 Prior Learning Assessment and Portfolio Building

Participants will be introduced to the concepts of prior learning assessment, educational and career planning and portfolio development. This introduction will provide the student with essential information that will assist them in future career and educational planning and will lay the foundation for portfolio development that may assist the student in receiving credit for prior experiential learning. 1C/1/0/0

CSCR 1411 Organizational Leadership 1

Focuses on the importance of the professional organization as part of the career picture. Students practice fundamental leadership skills by participating in local organizational meetings. As an officer in an approved student organization, the student will plan and attend organizational meetings using parliamentary procedure. 1C/0/1/0

■ Communication—Study Skills

COMM 0720 Developmental Reading Skills for College

This course emphasizes the development of vocabulary and reading skills necessary for college texts, readings and assignments. The course focuses on increasing vocabulary, using vocabulary contextually and developing independent learning strategies for reading. (Placement into this course will be according to college assessment scores.) 3C/2/1/0

COMM 0721 Reading 1

This course emphasizes comprehension and learning strategies necessary to respond effectively to a variety of college texts, readings and assignments. The course focuses on identifying main ideas, supporting details, organizational patterns typically found in college texts, summarizing and developing college level vocabulary. (Placement into this course will be according to college assessment score.) 3C/2/1/0

COMM 0722 Reading 2

This course emphasizes critical reading strategies and college-level vocabulary. It presents college reading as information processing and focuses on strategies for improving comprehension, selection, organization and recall. Materials represent a variety of academic disciplines and occupational areas. (Placement into this course will be according to assessment score or successful completion of COMM 0721.) 3C/2/1/0

■ Communication—Intensive English Program (English-as-a-Second-Language)

COMM 0806 Speaking/Listening Skills/ESL 3

Focuses on speaking and listening at the low intermediate level. Special emphasis is on the study of listening skills including taking lecture notes and dictations. Students will practice speaking by role playing routine situations, participating in structured discussions and making short presentations. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0807 Reading/Writing Skills/ESL 3

Focuses on reading and writing skills at the low intermediate level. Students will improve reading skills such as identifying main ideas, making inferences and summarizing the story. Special emphasis is on expanding vocabulary. Students will also write paragraphs on a variety of topics. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0808 Intermediate Grammar/ESL

Covers basic grammatical tenses including Simple, Progressive and Perfect groups of tenses. Grammar structures will be practiced orally in group and pair work and through completion of exercises. (Prerequisite(s): Appropriate assessment score) 3C/3/0/0

COMM 0809 Speaking/Listening Skills/ESL 4

Focuses on speaking and listening skills at the low intermediate level. Special emphasis will continue to be on the improvement of oral/aural skills. Students will study in the language lab listening to audio tapes, watching videos and working with a partner. Students will expand vocabulary, learn how to take lecture notes and make oral presentations. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0810 Reading/Writing Skills/ESL 4

Focuses on reading and writing skills at the low intermediate level. Students will practice reading skills such as anticipating, skimming and outlining. They will use the following steps in writing effective paragraphs and short stories; prewriting, composing, editing, proofreading and evaluating final draft. Intermediate grammar structures will also be reinforced. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0811 Speaking/Listening Skills/ESL 5

Focuses on speaking and listening skills at the high intermediate level. Special emphasis will be on the improvement of oral/aural skills. Students work in the multimedia language laboratory. They listen to lectures, take notes, make presentations and participate in class discussions. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0812 Reading/Writing Skills/ESL 5

Focuses on reading and writing skills at the high intermediate level. Students will strengthen reading skills such as making inferences, skimming, paraphrasing, summarizing and identifying main ideas. Focus is on improving students' ability to write effective paragraphs and essays. The writing process is reviewed. Students will develop or reinforce computer word processing skills. Critical thinking objectives will be integrated also. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0813 Advanced Grammar/ESL

Covers such topics as comparisons, passive voice, adjective clauses, gerunds/infinitives and others. Students will do written

and oral exercises, work in groups, participate in class discussions on the topics of concept and form of grammar structures. (Prerequisite(s): Appropriate assessment score) 3C/3/0/0

COMM 0814 Speaking/Listening Skills/ESL 6
Focuses on high intermediate level oral/aural skills. Students will continue to work in the multimedia language laboratory. They will expand their formal and informal vocabulary, including idiomatic expressions. They will practice conversations and give oral presentations. They will also participate in group discussions. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0815 Reading/Writing Skills/ESL 6
Focuses on reading and writing skills at the high intermediate to advanced level. Students will be engaged in text analysis, vocabulary expansion, outlining and improving their reading speed. To improve writing abilities, students will continue to strengthen the skills needed in the essay writing process: prewriting, organizing, revising and editing. The essay writing process is reviewed. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

COMM 0820 Pronunciation and Articulation
This course is designed for ESL students who need to improve their pronunciation, articulation and intonation skills. The emphasis is on the technique of sound production, denunciation, rhythm, volume, pitch through modeling and extensive drilling. Students will soften (not eliminate) their accent and acquire more confidence when they speak. Students at any level are accepted, no prerequisites are required. 1C/1/0/0

COMM 0831 Advanced ESL
Comprehensive course that encompasses four aspects of language learning—listening, speaking, reading and writing. Students improve their use of English to function successfully in their major programs. Special emphasis is on career exploration and major materials dealing with individual areas of interest. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

■ Communication

COMM 1410 Fundamentals of Writing 1
This course is aimed at beginning writers who have had little instruction or experience in writing. It provides sequenced instruction in grammar use, sentence construction, and paragraph construction. Students will study models of effective sentences and paragraphs and then generate their own work. Completion of this course with a grade of "C" or better is required to continue on to COMM 1415. (Prerequisite(s): COMM 0721 or COMM 0831 or department approval) 4C/4/0/0

COMM 1415 Fundamentals of Writing 2
This course provides credits for certificate and diploma programs and is preparation for ENGL 1711. In addition to reviewing sentence mechanics, students will study a variety of writing models in both paragraph and essay formats. Students must pass the course with a "C" or better in order to move on to ENGL 1711. (Prerequisite(s): Grade of "C" or better in COMM 1410 or appropriates assessment score.) 4C/4/0/0

COMM 1460 Applied Interpersonal Communications
This course provides an opportunity to improve communication with people at work or at home. The emphasis is placed on the practical and theoretical. Students develop an understanding of human needs, self-concept, perception and emotions. With respect for diversity, students study verbal and non-verbal messages, language, listening, dimensions of interpersonal relationships, relationship building and conflict resolution. 3C/3/0/0

COMM 1480 Job Seeking Resources
This course provides information and guidance in the development of professional job seeking skills. Topics will include: the application, the resume, the cover letter, using the Internet in a job search, locating job opportunities, marketing yourself and company research. 1C/1/0/0

COMM 1485 Employment Portfolio Development and Presentation
In this course, students will produce an employment portfolio demonstrating their skills, knowledge and abilities. Students will compile representative documents and materials that illustrate the quality and quantity of their accomplishments and the development of global and technical skills. They will also learn how to present the portfolio and practice interview situations. (Prerequisite(s): COMM 1480 or concurrent enrollment) 2C/1/1/0

COMM 1510 Customer & Occupational Relations
The student is introduced to and given practical human relations skills. Skills in listening, improving self concept, assertiveness, sensitivity to cultural diversity and climate setting are included. The course emphasizes positive interpersonal communication strategies and styles involved in healthy interactions with customers and co-workers. 3C/3/0/0

■ Computer Information Systems Technology

CIST 1423 Windows Client Configuration
This course provides an in-depth review of installing, configuring, administrating, optimizing and troubleshooting the Windows XP Operating System. The class material encompasses the body of knowledge as outlined for the Microsoft Certified System Administrator (MCSA) client operating system exam. 4C/4/0/0

CIST 2451 Microsoft Server 1
The course provides students with an introduction to planning, installing, managing and troubleshooting a server in a domain network environment. This class encompasses the body of knowledge as outlined for the first core server exam required for the Microsoft Certified System Administrator (MCSA) certification. 4C/4/0/0

CIST 2452 Microsoft Server 2
The course provides students with advanced concepts in planning, installing, managing and troubleshooting a server in a domain network environment. This class encompasses the body of knowledge as outlined for the second core server exam required for the Microsoft Certified System Administrator (MCSA) certification. 4C/4/0/0

CIST 2460 Linux Fundamentals
The course provides an in-depth first course in Linux and Linux Systems Administration. The course assumes the student has some knowledge of using the Linux GUI, the Linux command line and understands the fundamentals of networking. The material includes the body of knowledge outlined by LPI for their Level 1, Exam 101 certification. 4C/4/0/0

CIST 2464 Linux Administration

The material in this course includes the body of knowledge outlined by LPI for their Level 1, Exam 102 certification. Course material includes Linux kernel configuration, printing, documentation, scripting and networking services. The course assumes that the student has the background provided by CIST 2460. 4C/4/0/0

CIST 2466 Linux Networking

The material in this course includes the body of knowledge outlined by LPI for their Level 2, Exam 202 certification. Course material includes system security, routing, web services and network client management. The course assumes that the student has the background provided by CIST 2464. 4C/4/0/0

CIST 2469 Advanced Linux Topics

The material in this course includes the body of knowledge outlined by LPI for their Level 2, Exam 201 certification. Course material includes system startup routing, file systems, hardware interactions and common system maintenance issues. The course assumes that the student has the background provided by CIST 2464. 4C/4/0/0

CIST 2475 A+ Hardware and Operating System Preparation

The course provides an in-depth review of PC hardware, Operating Systems and the application software that they run. The material encompasses the body of knowledge outlined by CompTIA for their certification as an A+ computer technician. 4C/4/0/0

CIST 2477 Microsoft Server Security

The course focuses on implementing and administering network security in a Windows Server environment. Topics will include implementing, managing and troubleshooting security policies, patch management infrastructure, security features for network communications and planning, configuring and troubleshooting authentication, authorization and PKI. This class encompasses the body of knowledge as outlined for the security elective exam for the Microsoft Certified System Administrator (MCSA) certification. It is recommended that students taking this course have taken CIST 2451 Microsoft Server 1 or have equivalent knowledge/experience. 4C/4/0/0

CIST 2478 Build Your Own PC

The course provides practical, hands-on lab experience by assembling and customizing a PC from basic components. Upon course completion, the student will have a functional Intel-based PC running both Windows XP and Linux for their own personal use. 2C/2/0/0

CIST 2490 Introduction to Mac OS X

The course provides practical, hands-on experience in navigating the Mac OS X operating system, introduces many of the tools available within Mac OS X and exploring basic LAN and Internet networking concepts using a Macintosh. Discussion and examples of how Macintosh applications are used in a business environment will be covered with particular emphasizes on new features of Mac OS X and how it differs from previous Macintosh Operating Systems. 2C/2/0/0

CIST 2570 Digital Photography 1

This course introduces the student to digital photography and relates it to Web design advantages of digital photography, advantages of analog photography, hybrid digital photography, maximizing image definition, utilizing camera features, light, composition, on-location shooting, studio shooting, useful photo accessories, computer requirements, converting analog to digital, cataloging and managing images and choosing an image editing program. This is a hands-on course where the students will develop a project using the knowledge gained in class. 2C/2/0/0

CIST 2571 Digital Photography 2

This course is a continuation of CIST 2570. Topics include image editing, special effects, advanced image editing, photopainting, prepping images for the Web, "digital magic," making and using device profiles for predictable output options. This is a hands-on course where the students will develop a project using knowledge gained in class. It is recommended that students taking this course have taken CIST 2570 or its equivalent. 2C/2/0/0

CIST 2572 3D Studio Max 1

This course introduces students to the 3-D Studio Max interface, workflow, coordinating systems, layers, setup, startup files, 2-D primitive shapes, object naming, sub-object levels, vertex tangency, modifiers, lofting, 3-D primitives, editable poly, HSDS modifiers, displacement mapping, camera types, creating and adjusting cameras, camera composition, camera movement, and lighting methods. 2C/2/0/0

CIST 2573 3D Studio Max 2

This course builds on 3-D Studio Max 1 discussing photometric lights, material editor, maps, mapping coordinates, key frame animation, controllers, constraints, hierarchical linking, reactor dynamics, practice flow and effects. As a final project, students will demonstrate their ability to use the techniques covered in class. 2C/2/0/0

CIST 2586 Digital Sound

This course teaches students how to create and edit digital sound for use in computer animation. Topics include analog and digital sound techniques and equipment, analog to digital conversion, basic sound editing, formats and sound conversion, digital to analog conversion and basic sound effect techniques for use in computer animation. 2C/2/0/0

CIST 2587 Digital Video

This course covers video production techniques. All phases of video production will be covered including pre-production, production and post-production with focus on creating digital video. Topics include screenwriting, photography, drawing, story concept, characters, plots, themes, digital tools, generating original ideas, incorporating plot goals, creating the final story, creating original characters, themes and visual metaphors, developing visual styles, developing digital production styles, creating visually expressive characters, developing set designs, conceptual lighting design, developing color palette, narrative sound design, production story-editing choices, digitally enhanced storytelling techniques, using modern 2D animation to expand our realities and using 3D animation to show anything imaginable. 2C/2/0/0

CIST 2591 Computer Information Systems Technology Internship

A cooperative work-student program between Saint Paul College Computer Information Systems Technology Program and a business facility to allow the student an employment-like experience. (Prerequisite(s): Instructor approval) Variable 2–8 credits

CIST 2597 Special Topics in Computer Information Systems Technology
Provides learning experiences that meet the needs of students, major programs and the College. (Prerequisite(s): Instructor approval) Variable 1–6 credits

■ Computer Professional Series

CPRO 1120 HTML Professional Series
This course is a fast-paced "hands-on" introduction to the basics of the Hypertext Markup Language using clear step-by-step workshops. The course focuses on the fundamentals of Web Publishing with HTML 4.01. Students will begin with HTML layout basics and progress quickly through table structures, frames and cascading style sheets. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" series are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1125 IIS Professional Series
This course is a fast-paced "hands-on" introduction to Web Server Administration using the Microsoft Internet Information Server (IIS) product. Students will learn the fundamentals of Web Server Administration starting with the installation of a server, configuration of Web functionality and administration of mail, ftp and related technologies. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1130 JavaScript Professional Series
This course is a fast-paced "hands-on" introduction to the basics of JavaScript. The course covers client-side JavaScript, which is generally embedded in HTML documents. Students will learn how to dynamically create content and change the display characteristics of their pages, as well as how to validate form data and work with events, cookies, frames and other aspects of the browser. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1135 ASP Professional Series
This course is a fast-paced "hands-on" introduction to the basics of the Active Server Pages using clear step-by-step workshops. The course focuses on the fundamentals of using ASP with Web Publishing and HTML 4.01. Students will begin with ASP basics and progress quickly through multiple page considerations, dynamic Internet applications, personal Web server set-up, and dynamic content from databases. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of

academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1140 XML Professional Series
This course is a fast-paced "hands-on" introduction to the Extensible Markup Language. Students learn to write syntactically perfect XML documents and add business-layer logic using document type and schema validation. Simple transformations between various document types are explored along with style sheet integration. All courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1145 Apache Professional Series
This course is a fast-paced "hands-on" introduction to the basics of the Apache HTTP Server. The course focuses on the general operating characteristics of Apache from an administrator's perspective. Topics such as installing, configuring and administering Apache are treated at an elementary easy-to-understand level. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1150 Professional Series Home/Small Business Networking
This course is a fast paced "hands on" introduction to the basics of setting up and configuring a computer network for either the home or small business environment. The course will give a brief introduction to basic network theory and then focus on implementations of both Windows and Linux network. Both peer-to-peer and simple client/server environments will be explored. This course is designed for the beginner who has limited experience with computer networks. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1155 Java Professional Series
This course is a fast-paced "hands-on" introduction to the basics of the Java programming language. The course focuses on the basics of Java. No previous programming knowledge is assumed for this course. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1160 Linux Professional Series

This course is a fast-paced "hands-on" introduction to the basics of the Linux operating system. The course focuses on the general operating characteristics of Linux from a user's perspective. Topics such as directory hierarchy, shell commands, vi editor, sessions and accounts are treated at an elementary easy-to-understand level. The course is designed for the beginner who wants an overview of Linux. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1165 Mac OS X Professional Series

This course is a fast paced "hands on" introduction to the navigating the Mac OS X operating system, introduces many of the tools available within Mac OS X and exploring basic LAN and Internet networking concepts using a Macintosh. Discussion and examples of how Macintosh applications are used in a business environment will be covered with particular emphasizes on new features of Mac OS X and how it differs from previous Macintosh Operating Systems. This course is designed for the beginner who has limited experience with computer networks. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1170 PHP Professional Series

This course is a fast-paced "hands-on" introduction to the basics of the PHP web programming environment. The course focuses on how to program PHP. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1175 UML Professional Series

This course is a fast-paced "hands-on" introduction to the basics of the UML This 8 week course will familiarize you with all phases of Object-Oriented Analysis and Design, OOAD, using the Unified Modeling Language (UML) methodologies. This course is a fast-paced "hands-on" introduction to the basics of the UML. The course is designed for students and professional who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1180 Unix Professional Series

This course is a fast-paced "hands-on" introduction to the basics of the Unix operating system. The course focuses on the general operating characteristics of Unix from a users perspective. Topics such as directory hierarchy, shell commands, vi editor, sessions and accounts are treated at an elementary easy-to-understand level. The course is designed for the beginner who wants an overview of the technology. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1185 Windows XP Professional Series

This course is a fast paced "hands on" introduction to the Windows XP Operating System. Unique features of the Windows XP Operating System will be presented to students. This course is designed for the beginner who has limited experience with computer networks. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

CPRO 1190 IT Project Management Professional Series

This course is a fast-paced "hands-on" introduction to the basics of the information technology project management. The course focuses on the Project Management Institute's project management process groups and knowledge areas. The course uses information technology projects as examples. Project management knowledge areas of scope, time cost quality and facilitating areas will be discussed. Project management techniques including work breakdown structures, network diagrams, cost-benefit analysis will be covered. The course is designed for the beginner who wants an overview. Courses in the "Professional Series" are designed for busy individuals who do not have the time for a full term of academic study and need to come up to speed quickly in a particular technology. All "Professional Series" courses are taught in a workshop manner using extensive in class examples and "hands-on" exercises. These courses are not intended for degree seeking students. 2C/2/0/0

■ Computer Science

CSCI 1400 Introduction to Microcomputers

This course is an introductory course intended to give beginning students an understanding of microcomputers. Microcomputer concepts and applications will be covered. The concepts presented will help a student learn how the microcomputer works. Students will learn current hardware configurations and software such as business applications through hands-on use of the computer. The course is designed to bring students up to speed quickly in the use of information technology while providing an in-depth understanding of how the technology is implemented. The course is not intended for CSCI or CIST majors. 3C/3/0/0

CSCI 1405 Fundamentals of Computer Programming in Java

This course is designed for the student with no formal background in computer programming. The course is taught using the Java programming language and students are coached through a series of elementary programming problems. Various computer algorithms are taught at the introductory level and no

advanced preparation in mathematics is required. The course is ideal for the student who is not a computer professional and is interested in a gradual introduction to programming. 4C/4/0/0

CSCI 1410 Computer Science and Information Systems

Designed to introduce Computer Information Systems to students in the field of computer science and information science. The course will cover the basic architecture and design of digital computers and the software that runs on them. Special emphasis will be placed on the technical aspects of the field of computer science and a significant amount of time will be spent developing a sound analytical understanding of the field. Topics such as machine architecture, binary arithmetic, algorithm development, data structures, file organization, database design, systems analysis, data communication and systems software will be covered. Students must have a sound preparation in mathematics through basic algebra. 4C/4/0/0

CSCI 1420 Introduction to Operating Systems

This course is an introduction to operating systems. It addresses both the theoretical and applications aspects of operating systems, their design and function. A high-level generic map of an operating system is initially presented. Then its implementation in MS-DOS, Unix/Linux, Windows and MVS are covered in detail. Networking concepts and structures of operating systems are also reviewed. 4C/4/0/0

CSCI 1440 Networking Fundamentals

The course provides an introduction to networking technologies. This course covers a wide range of material about networking, from local area networks, wide area networks, protocols, topologies, transmission media and security. It not only introduces a variety of concepts, but also discusses in-depth the most significant aspects of networking, such as the TCP/IP protocol suite. In addition to explaining concepts, the course uses a multitude of real world examples of networking issues from a professional's standpoint, making it a practical preparation for the real world. 4C/4/0/0

CSCI 1443 Dreamweaver 1

This course explores the basics of Dreamweaver MX. Topics include file organization, the Dreamweaver MX interface, site control, images, text, linking pages, ordered, unordered and defined lists, color schemes, tables and basic layouts. The focus of this course is to introduce the student to Dreamweaver MX and develop a simple Web site using the techniques learned. 2C/2/0/0

CSCI 1444 Dreamweaver 2

This course explores the more advanced topics of Dreamweaver including frames, rollovers, cascading style sheets, HTML, forms, DHTML, automation, sounds, templates and libraries and troubleshooting. It is recommended that students taking this course have taken CIST 2543 or its equivalent. 2C/2/0/0

CSCI 1446 Adobe/Macromedia Fireworks 1

This course introduces the student to Macromedia Fireworks MX. Topics include common Fireworks tasks, the Fireworks interface, setting up, modifying, navigating Fireworks documents, creating simple graphics, working with text, working with bitmaps and building professional graphics. This is a hands-on course where the students will develop a project using the knowledge gained in class. 2C/2/0/0

CSCI 1447 Adobe/Macromedia Fireworks 2

This course is a continuation of CIST 2546. Topics include Fireworks artistry and special effects, masks, blending layers, using styles, working with libraries, working with URLs,

creating animation and interactivity, optimizing and exporting graphics, integrating Fireworks graphics with Flash and Director, exporting Fireworks HTML and automating and extending fireworks. This is a hands-on course where the students will develop a project using knowledge gained in class. It is recommended that students taking this course have taken CIST 2546 or its equivalent. 2C/2/0/0

CSCI 1448 Adobe/Macromedia Flash 1

This course introduces the student to Macromedia Flash MX. Topics include common Flash tasks, the Flash interface, setting up, modifying, navigating Flash documents, creating simple graphics, working with text, working with bitmaps and building professional graphics. This is a hands-on course where the students will develop a project using the knowledge gained in class. 2C/2/0/0

CSCI 1449 Adobe/Macromedia Flash 2

This course takes you beyond the basics of CIST 2548. Topics include adding sounds to Flash MX, publishing movies, layer editing, Action Script, importing Quick Time movies into Flash MX and creating 3-D effects in Flash. This is a hands-on course where the students will develop a project using knowledge gained in class. It is recommended that students taking this course have taken CIST 2548 or its equivalent. 2C/2/0/0

CSCI 1450 Web Fundamentals/HTML

This course provides students with a thorough grounding in the World Wide Web, a fundamental knowledge of HTML and a basic understanding of Internet technical architectures. Students learn about search engines, Web servers, scripting, protocols, ISPs and other Internet technologies. Technical architecture topics include the study of networks, Internet protocols, Internet servers, firewalls, security and general issues in conducting e-commerce. Students will design and program HTML Web pages, tutorials and publish a Web site project. 4C/4/0/0

CSCI 1470 Web Design

This course explores the principles of Web design theory and practice. Concepts related to the look and feel of the client-side of the World Wide Web are emphasized. Topics include the design of a graphical user interface, site content, organization and navigation, with emphasis on the human interface. Also included are Web "usability" issues. Color palettes, font selection and use of animation are discussed. The use of HTML layout concepts and software such as PhotoShop and Dreamweaver introduced. (Prerequisite(s): Students enrolling in this course will benefit from prior experience with HTML and a thorough exposure to the Internet.) 4C/4/0/0

CSCI 1521 Structures of Computer Programming 1

This course offers an introduction to the fundamental principles of programming and to different programming paradigms. Programming students will develop reasoning and abstraction skills needed for designing algorithms and programs. The course is taught using Java so some previous exposure to programming would be beneficial to students. (Prerequisite(s): CSCI 1410) 4C/4/0/0

CSCI 1522 Structures of Computer Programming 2

This course offers an introduction to object-oriented programming and data structures using the Java programming language. Special emphasis will be placed on object-oriented programming and design using UML. Programming students will develop reasoning and abstraction skills to support object-oriented development. (Prerequisite(s): CSCI 1521) 4C/4/0/0

CSCI 1531 C/C++ Programming 1

This is a rigorous first course in C++. The course first covers some basic material like input and output in C++, the Boolean data type, default arguments, reference variables, function overloading, namespaces, type safe linkage and new and delete. The course then covers, in great detail, classes, derived classes and virtual functions. Students should expect to spend at least 8 hours per week per class session on review and homework. (Prerequisite(s): The student is assumed to have a working knowledge of C, including pointers, structures and dynamic memory allocation) 4C/4/0/0

CSCI 1532 C/C++ Programming 2

This is a rigorous second course in C++. The course covers exception handling in C++, templates, the Standard Template Library (STL) and IOStreams. Students should expect to spend at least 8 hours per week per class session on review and homework. (Prerequisite(s): The student is assumed to have a knowledge of C++, including classes, derived classes and virtual functions) 4C/4/0/0

CSCI 1541 Java Programming 1

This course covers the syntax of the Java programming language; object-oriented programming with the Java programming language; creating graphical user interfaces (GUIs), exceptions, file input/output (I/O), threads and networking. Programmers familiar with object-oriented concepts can learn how to develop Java applications. This course is based on the Sun Certified Programmer for the Java 2 Platform 1.4. 4C/4/0/0

CSCI 1542 Java Programming 2

This course provides students with first-hand experience using objected-oriented analysis and design and Java to create a distributed, multi-tier application. Students use graphical user interface (GUI) design principles and network-communications capabilities to code a functional Java application that interacts with a networked database server. This course is based on the Sun Certified Developer for the Java 2 platform examination. Students should have had a previous course in Java programming prior to this course. 4C/4/0/0

CSCI 1550 Database Management Fundamentals

This course serves as a general introduction to the field of Database Management. The course emphasizes database management fundamentals. It is organized around the database development life cycle and the subject matter of the course is presented in life cycle order. Conceptual design, logical design, physical design and the final implementation are covered in detail. The relational database model is studied in depth and other models such as the network and object models are introduced. Oracle is used as the implementation database management system. Students enrolling in this course must have knowledge of computer software and hardware. 4C/4/0/0

CSCI 1551 Introduction to Oracle

This course is an introductory course in Oracle Database Server. The Oracle Database Server architecture is introduced along with basic administration tasks such as starting and stopping an instance, creating and managing an instance and installing Oracle. Oracle SQL syntax is also introduced including basic statements, subqueries and controlling user access. Oracle educational materials are used and both Oracle SQL and basic Oracle administration topics are covered in the course. This course is the preparation course for students wishing to pursue further classes on Oracle Database Server Administration or Oracle Database Server Development. This course is a prerequisite for the follow-on courses. Database

management fundamentals or equivalent experience is strongly recommended as a prerequisite for this course. 4C/4/0/0

CSCI 1552 Oracle Database Development

This course offers students an extensive introduction to Oracle development using SQL and PL/SQL programming language. Topics discussed include PL/SQL variables and data types, PL/SQL block syntax and guidelines, control structures, PL/SQL cursors, exception handling, Oracle stored procedures and functions, Oracle triggers and Oracle packages. Oracle educational materials are used and both Introduction to Oracle SQL & PL/SQL and Develop PL/SQL Program Units certification exam topics are covered in the class. It is recommended that students taking this course have taken CIST 1548 or its equivalent. 4C/4/0/0

CSCI 1554 Oracle Database Administration

This course is designed to prepare the student to administer the Oracle database management system. Operation and maintenance of the Oracle database management system is stressed in this course. The course is based on extensive Oracle-based exercises emphasizing a hands-on approach. The course is organized around the Oracle Corporation requirements for certification as an Oracle Certified administrator. Oracle educational materials are used and students should plan to prepare to take the first two administration examinations in the Oracle Certified Professional Track. It is recommended that students taking this course have taken CIST 1548 or its equivalent. 4C/4/0/0

CSCI 1560 Object Oriented Analysis & Design—UML

This course presents key concepts and methodologies required to perform object-oriented software engineering. The class focuses on the high-level front-end conceptual processes of analysis and design that lower development costs and reduce time-to-market. Students use several methods for analyzing software systems, finding and refining useful classes and relationships between objects. The Unified Modeling Language (UML) is presented in detail and is used in the exercises and case studies. Practical aspects of project management and implementation are presented from the perspective of experienced object system designers. Students will be introduced to several analysis and design tools. It is recommended that students taking this course have taken CSCI 1522 or its equivalent. 4C/4/0/0

CSCI 1562 C# .NET Programming

This is a course in writing Windows applications using C# .NET. Students will learn how to write, compile and debug Windows programs using C# .NET. Students will also learn to build and deploy Windows applications for the .NET Framework. Object-oriented techniques will be emphasized. Students will learn to write programs that trap and respond to exceptions with structured exception handling. This course will cover topics included on the Microsoft certification exam, such as building Windows Applications using C#. Students entering this course are expected to have taken Introduction to C# .NET or have equivalent experience. 4C/4/0/0

CSCI 1568 PHP and MySQL Programming

This course explores the PHP server-side scripting language and the MySQL DBMS. These technologies are used in a niche Web Development market because they are open-source and license free. Students will learn why both of these free products are supported by enthusiastic communities of architects, programmers and designers. (Prerequisite(s): Students should be proficient with HTML and have experience with other Web technologies) 4C/4/0/0

CSCI 2410 Management Information Systems

This course provides elementary concepts to the management of information systems. The course is designed to allow the student of management information systems to evaluate, design and implement information processing systems that support all management areas of the business enterprise. The purpose of the course is to understand the underlying principles of information systems from a user (not a system's manager) perspective for different management functions. 4C/4/0/0

CSCI 2420 Computer Security

This course is an introduction to computer security. The course covers the breadth of the field of cyber crime and security. Topics include workstation, network and Internet level security strategies, security assessment and audit, securing a system, encryption, malware, etc. The course is conducted in a lecture format with reinforcing "hands-on" laboratory experiences. It is recommended that students taking this course have taken CIST 2451 Microsoft Server 1 or have equivalent knowledge/experience. 4C/4/0/0

CSCI 2430 Information Systems Project Management

This course is an introduction to information systems project management. The course emphasizes the relationship of project management techniques to the software development lifecycle model. Project management processes for initiating, planning, executing and closing down information technology projects are covered. Specific techniques covered include work breakdown schedules, network diagrams, PERT estimating, resource scheduling, resource leveling, risk identification, contingency planning and other skills are covered in depth. Each student will conduct a series of case studies using Microsoft Project as project management tools. 4C/4/0/0

CSCI 2438 JavaScript

This course teaches in depth JavaScript language syntax, programming concepts and object framework. Emphasis includes "hands on" learning through several in class examples and student assignments. The course covers advanced Web page and Web application development, dynamic HTML, form validation and processing, cookies and servlet communication. (Prerequisite(s): Students enrolling in this course should have a knowledge of HTML 4.01 and prior experience developing Web pages) 2C/2/0/0

CSCI 2440 Internet Programming 1 – Client Side

This course covers the skills needed to create dynamic, client-side web pages. Beginning with a refresher of HTML 4.01 and web page design, the course examines XHTML 1.0 and the separation of style and structure, supported by CSS (Cascading Style Sheets). Students work with client-side JavaScript, Dynamic HTML (DHTML), the DOM (Document Object Model) and selected advanced topics. Class sessions include hands-on work and lectures, highlighted by the completion of a capstone project in which student teams develop a Website for a "real-life" client. (Prerequisite(s): Students should be able to demonstrate a working knowledge of HTML 4.01 with some prior Web Development experience.) 4C/4/0/0

CSCI 2442 Internet Programming 2 – Server Side

This course is designed for students interested in developing the server-side skills needed to create dynamic, data-driven internet and e-commerce sites. The course begins by examining forms and events used to collect and persist data. It then moves into writing functions to validate user-input in response to events. The focus is on server-side issues, with emphasis on using Active Server Page (ASP) technology, VBScript and ADO (ActiveX Data Objects) to render dynamic, data-driven pages. In particular, students learn how to use the ASP object model, including the Application, Session, Response and Request objects. (Prerequisite(s): Students should know HTML and have prior experience building Websites prior to taking this class.) 4C/4/0/0

CSCI 2450 Advanced OOAD with UML and Rational Unified Process

This course is an advanced course in object oriented design and development with UML. This course assumes the student has prior exposure to UML modeling either by prior coursework or experience. The course focuses on the use of the Rational tool set with particular emphasis being given to the use of the Rational Rose product and its relation to the Rational Unified process. Both are reviewed in detail. It is recommended that students taking this course have taken CSCI 1560 or its equivalent. 4C/4/0/0

CSCI 2460 Discrete Structures of Computer Science

This course gives an introduction to computer implementation of standard techniques to represent and analyze computational objects. Emphasis of the course is on the application of common data structures such as bags, tuples, lists, strings, relations, graphs, tree traversal, searching and sorting. (Prerequisite(s): MATH 2751) 4C/4/0/0

CSCI 2463 XML Programming

This course is designed to give the student both the theoretical foundation and hands-on skills required to begin using XML (eXtensible Markup Language). It begins by examining what XML is and what it can be used for. Early topics include elements and attributes, the use of namespaces, defining valid XML documents and the use of DTDs and Schemata to constrain XML, particularly as used in B2B (business-to-business) applications. Students learn about the DOM (Document Object Model), an object-oriented API for working with XML. XSLT (eXtensible Stylesheet Language for Transformations), Templates and Xpath are also covered. Advanced topics include XML and databases, SOAP (the Simple Object Access Protocol), the SAX (Simple API for XML) interface and others. (Prerequisite(s): Students should know HTML 4.01 and have prior experience building Web sites.) 4C/4/0/0

CSCI 2464 PERL/CGI Programming

This course covers CGI and Perl programming. Topics include CGI fundamentals and resources, HTML and CGI form generator, installing and testing forms and scripts, DNS administration, CGI-based fax viewer, Web-based calendaring and scheduling and creation of a customer quote generator. 4C/4/0/0

CSCI 2466 J2EE-JSP and Servlets

This course introduces the Java programmer to servlets and JSP. It covers cookies, session tracking, JSP scripting elements, JavaBeans in JSP and custom tag libraries. The course attempts to teach the material in a very "hands-on" manner and there are significant programming assignments throughout. The course will includes review session for the Sun Java Web Component certification exam time permitting. 4C/4/0/0

CSCI 2467 J2EE Application Development

This course provides an overview of the latest J2EE version architecture and an in-depth examination of some of the key technologies that makeup J2EE. Students will develop an understanding of the purpose and significance of J2EE architecture and its advantages for building enterprise applications. The course will begin with a discussion of limitations and challenges of current enterprise computing. This

will be followed by an examination of the features and necessary characteristics of large-scale enterprise computing such as scalability, fail over, deployment tools and session management. A review of the J2EE 1.3 specifications will be followed by an in-depth examination of Java Servlets, Java Server Pages and Enterprise JavaBeans. Java code will be examined to illustrate the techniques used to develop servlets, JSP's and EJB's. 4C/4/0/0

CSCI 2555 Adobe LiveMotion 1
This course introduces the student to LiveMotion 2.0. Topics include the work area, drawing basic shapes, text, styles, working with shapes, animation, keyframes and animating object properties. This is a hands-on course where the students will develop a project using the knowledge gained in class. 2C/2/0/0

CSCI 2556 Adobe LiveMotion 2
This course is a continuation of CIST 2555. Topics include the rollovers, movie clips, advanced rollovers, player script, sounds, dynamic data, advanced interactivity, writing automation scripts and live tabs and exporting LiveMotion compositions. This is a hands-on course where the students will develop a project using knowledge gained in class. It is recommended that students taking this course have taken CIST 2555 or its equivalent. 2C/2/0/0

CSCI 2560 Introduction to Computer Games
This course deals at an elementary and introductory manner with the design and creation of computer games. The course uses the Java language as a tool for developing relatively simple two dimensional computer games. Students will be expected to develop computer games from conception through implementation in this course. Game programming in this course will focus on "interactive" gaming rather than strategic gaming. Students are expected to have a familiarity with either C++ or Java programming or the ability to quickly master them before entering this course. The work for this course will include a variety of projects. Each project will be accompanied with an oral presentation. 4C/4/0/0

CSCI 2561 Computer Games Design and Implementation 1
This course deals an introductory level with the study of the technology involved in the creation of computer games. Students will survey a variety of software technologies relevant to computer game design, including: programming languages, scripting languages, operating systems, file systems and multi-media design systems. The work for this course will include a variety of projects. All projects will require design activities and students will be expected to make use of existing programming tools. There will be 4 graded projects. Each project will be accompanied with an oral presentation. The final project will count for 40% of your grade. All projects will be done in teams. Students are expected to have a proficiency with a higher level programming language such as C++ (preferred) or Java. 4C/4/0/0

CSCI 2565 Computer Games Studio Workshop
Aristotle first identified it in his Poetics, giving it the kind of halo that makes ideas unapproachable. But it's really very simple. A story must have a beginning, a middle and an end. This course is about the beginning, the middle and the end of a computer game. In this course we guide the student through the creative storytelling process of developing a framework for a computer game. Game development tools are not used in this course as it is carried out more as a workshop in creating a "technical play" than an exercise in straightforward application of previously developed technologies. In this course the student

will complete several computer game projects from the perspective of the creation of the story that the game tells. The work for this course will include a variety of projects. All projects will require design activities The final project will require students to go through the beginning phases of system life cycle: creation, specification and design of a proposed computer game. 4C/4/0/0

CSCI 2570 Machine Architecture and Organization
This is an introductory course on computer organization and computer systems. The course covers the detailed aspects of system software such as compilers, linkers and operating systems. The course also covers material on the basic components in modern computers such as processors, hierarchical memory systems and I/O peripherals. Students will develop proficiency in language C and assembly language in order to study the behavior of programs at this level. Students are expected to have a mathematical background which includes College Algebra and preferably Calculus. (Prerequisite(s): CSCI 1410 and experience with a high-level computer language) 4C/4/0/0

CSCI 2580 Introduction to Numerical Computing
This is an introduction to numerical algorithms for computer scientists. It covers topics which review the computer programming implementation of basic numerical analysis techniques such as the effect of finite precision arithmetic and the basic numerical methods, such as root finding, the solution of linear systems of equations and the solution of ordinary differential equations. (Prerequisite(s): MATH 2752 and experience with a high-level computer language) 4C/4/0/0

CSCI 2600 Computer Graphics 1
Computer Graphics 1 introduces the student to the subject of computer graphics as a technical and creative medium. Topics include basic graphic programming, hardware, software applications, electronic storyboarding, electronic color theory, vector and raster graphics, electronic illustration, file types and formats, digital imaging and digital printing. 4C/4/0/0

CSCI 2601 Computer Graphics 2
Computer Graphics 2 is a continuation of Computer Graphics 1. The student will be introduced to 2D and 3D animation techniques along with an introduction to Maya. The student will be introduced to the project workflow required to create computer animation building on what was learned in Computer Graphics 1. The student will learn project development including writing, staging, movement, timing, key framing, editing and incorporating sound and music into computer animation. 4C/4/0/0

■ Construction Supervisor

CNSP 2410 Construction Methods, Materials and Their Applications
This is a hands-on survey course of components of the construction industry: methods, materials and sequences of construction process; emphasis on design, specifications, purchase and use of concrete, masonry and wood. 3C/2/1/0

CNSP 2412 Construction Codes and Inspection
An examination of building codes and standards applicable to building construction and inspection process. 3C/3/0/0

CNSP 2413 Construction Safety and Loss Control
OSHA regulations, hazard recognition, control procedures and systems for measuring and evaluating loss control performance. 3C/3/0/0

CNSP 2414 Building Specifications, Contract Documents and Specification Change Process
Understanding of building specifications, knowledge of range of contract documents and specification of change process will be covered. 3C/3/0/0

CNSP 2420 Project Scheduling
This course covers construction project planning with emphasis on subdivision and quantification of work; quantity take-off using plans and specifications. Use of conventional scheduling methods such as critical path methods, Gantt charts, monthly reports and crashing time schedule will also be covered. 3C/2/1/0

CNSP 2450 Construction Estimating and Cost Control
Fundamentals of estimating materials and labor costs in construction will be covered. Student will use blueprints, building specifications to verify dimensions of building components and determine total costs of those components. Verification of construction procedures described in building specifications; and calculate costs for materials, labor and contractor services will also be covered. 3C/2/1/0

CNSP 2460 Contracts and Legal Aspects of Construction Industry
This course covers types of contracts used in construction industry; emphasis is on understanding functions and interrelationships of documents. It includes a review of laws applied to industry; application of contracts and law to case studies. 3C/3/0/0

CNSP 2490 Internship in Supervising
Students will be required to arrange an internship experience that exposes and/or gives them experience as a supervisor with the range of responsibilities of a supervisor. Students will not be expected to have performed all duties but to have experienced the role of supervisor. Work habits, ability to perform duties, communicate in the complex environment of a supervisor and take responsibility as appropriate will be components of the internship. 2C/0/0/2

CNSP 2481 Advanced Scheduling
Project scheduling procedures to include computer applications and resource leveling; project types, office and filed planning required to initiate work; equipment and construction methods selection process and an examination of contractual mandates specified. 3C/3/0/0

CNSP 2491 Advanced Estimating
Student will be able to bid projects with work quantifications, pricing submittal for lump sum and unit price bids and for preparation of design/build proposals. 3C/2/1/0

CNSP 2500 Construction Superintendent I: Project Management for Subcontractors
Students will be required to demonstrate the integration of their knowledge and experience by supervising a simulated project that includes but is not limited to contract documents, safety, planning, scheduling, production, control, relevant laws and codes, cost and work analysis and labor. The focus will be from the perspective of supervisor for a subcontractor. Presentations, preparation of relevant materials, problem solving and negotiations will be part of the simulated experience. 3C/0/0/3

CNSP 2501 Capstone II: Project Management for General Contractors
Students will be required to demonstrate the integration of their knowledge and experience by supervising a simulated project that includes but is not limited to responsibility for construction safety and inspection. Focus will be on the responsibilities of a supervisor working for a General Contractor. 3C/0/0/3

■ Constuction Electricity (Electrical Maintenance)

CNEL 1111 Electrical Maintenance 1
This is the first in a series of four courses. This course presents basic DC electrical concepts which provide the foundation needed to gain a solid knowledge base from which to maintain electrical distribution systems, operate and maintain electrical equipment, troubleshoot and repair electrical problems in a commercial, industrial or residential environment. 4C/4/0/0

CNEL 1112 Electrical Maintenance 2
This is the second of four courses. This course presents AC electrical concepts which provide the foundation needed to gain a solid knowledge base from which to maintain electrical distribution systems, operate and maintain electrical equipment, troubleshoot and repair electrical problems in a commercial, industrial or residential environment. (Prerequisite(s): CNEL 1111) 4C/4/0/0

CNEL 1113 Electrical Maintenance 3
This is the third of four courses. This course presents three phase AC electrical concepts which provide the foundation needed to gain a solid knowledge base from which to maintain electrical distribution systems, operate and maintain electrical equipment, troubleshoot and repair electrical problems in a commercial, industrial or residential environment. (Prerequisite(s): CNEL 1112) 4C/4/0/0

CNEL 1114 Electrical Maintenance 4
This is the last of four semester curriculum courses in Electrical Maintenance. The last semester presents advanced electrical concepts which provide the foundation needed to gain a solid knowledge base from which to maintain electrical distribution systems, operate and maintain electrical equipment, troubleshoot and repair electrical problems in a commercial, industrial, or residential environment. Topics include; electromagnetic starters and contactors, basic control circuits, ladder or 'one line' diagrams, harmonics and power quality, relay logic, blueprint reading, national electrical code and troubleshooting techniques. (Prerequisite(s): CNEL 1113) 4C/4/0/0

CNEL 1410 Direct Current Circuit Analysis
Covers basic concepts of electricity and DC circuits. Included are current and voltage, power, conductors and insulators, resistance, Ohm's Law, power sources, series, parallel and complex circuits. Experiments with Ohm's Law, power sources, wiring of series, parallel and complex circuitry and instrument applications will be conducted. 3C/0/3/0

CNEL 1420 Alternating Current Circuit Analysis
Covers the basic concepts of AC circuits and includes a study of electromagnetic principles, sine wave principles and relationships, series and parallel circuits, power, circuit analysis and resonance. Hands-on application of components in AC circuits will include the wiring of circuits showing the operation of electromagnets, sine waves, series and parallel resistance combinations and reactive combinations. (Prerequisite(s): CNEL 1410) 4C/0/4/0

CNEL 1590 Direct Current Motors/Generators

Covers the theory, types, construction, operation, installation and maintenance of DC generators, motors and controls. Detail is afforded the student as to accepted troubleshooting procedures. Introductory level information and procedures as to rewinding motors is available to capable students. (Prerequisite(s): CNEL 1410) 2C/0/2/0

■ Construction Electricity

CNEL 1435 Introduction to the National Electric Code

Introduction to the National Electric Code. Students will study the history of the code and how changes are adopted into the code. Students will become familiar with common definitions. 1C/0/1/0

CNEL 1440 Alternating Current Motors (Single Phase)

Gives students the background to identify, connect, operate, troubleshoot and maintain most common types of single phase motors. Meters and specialized test equipment are used extensively. (Prerequisite(s): CNEL 1420) 3C/0/3/0

CNEL 1450 Electrical Trade Calculations

Concentrates on the mathematical skills required to perform electrical circuit analysis and National Electrical Code calculations. 3C/0/3/0

CNEL 1460 Blueprint Reading for Electricians

Covers an introduction to drawing and blueprint reading. Architectural, mechanical, structural and electrical print will be covered. Emphasis will be placed on the electrical print regarding lighting and receptacle layout. Branch circuit and feeder layout will also be covered. 1C/0/1/0

CNEL 1510 Test Equipment & Power Supplies

Covers the use of electrical and electronic test equipment. Students study different types of diodes and connect them in typical circuits. Complete power supply circuits are connected, analyzed and tested. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 3C/0/3/0

CNEL 1520 Transistors & Amplifiers

This course covers transistor amplifiers, transistor theory and operation, connection, testing and troubleshooting practices. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 2C/0/2/0

CNEL 1530 Thyristors & Optical Devices

Covers the information necessary to gain a working knowledge of thyristors, light and heat sensing devices and electrical transducers. Installation and troubleshooting techniques are stressed. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 2C/0/2/0

CNEL 1540 Job Site Safety

Covers general safety situations found on construction job sites. Students are introduced to topics ranging from inspections for hazardous conditions to personal protective equipment. Students will become familiar with OSHA regulations. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 1C/1/0/0

CNEL 1560 Three Phase Systems

Covers 3-phase power systems. Areas of study include 3-phase theory, power factor, 3-phase calculations and 3-phase test instruments. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 2C/0/2/0

CNEL 1570 Three Phase Motors

Provides students with the background to identify, connect, operate, troubleshoot and maintain three phase motors. Meters and specialized motor test equipment are used extensively. (Prerequisite(s): CNEL 1410, CNEL 1420, CNEL 1430, CNEL 1440 and CNEL 1450) 3C/0/3/0

CNEL 1585 Energy Management Systems

Introduces programmable controllers and explains how they can be used to control machines and building equipment. (Prerequisite(s): CNEL 1530 and MATH 1420) 2C/0/2/0

CNEL 2410 Transformers

Single and three phase transformer operations including transformer losses, efficiency, phase relationships and special transformers are covered. (Prerequisite(s): CNEL 1510, CNEL 1520, CNEL 1530, CNEL 1540, CNEL 1550, CNEL 1560, CNEL 1570 and MATH 1420) 3C/0/3/0

CNEL 2420 Motor Controls

Covers the design, wiring and troubleshooting of control and load circuits for single phase and three phase motors. Also covered is the design and sizing of the protection for these motors. (Prerequisite(s): Second semester CNEL courses) 4C/0/4/0

CNEL 2430 Heating & Cooling Systems

Covers the control of heating and cooling systems in residential and commercial situations. Gas, oil and electric systems are covered. (Prerequisite(s): CNEL 1510, CNEL 1520, CNEL 1530, CNEL 1540, CNEL 1550, CNEL 1560, CNEL 1570 and MATH 1420) 2C/0/2/0

CNEL 2445 Residential Wiring Methods

Covers the material and design aspect of residential wiring. Topics include branch circuit requirements, wiring methods and the use of blueprints. 2C/0/2/0

CNEL 2450 National Electric Code 1

Covers the rules of the National Electrical Code that pertain to heating equipment, motors and controllers, refrigeration and air conditioning equipment (Articles 424, 426, 427, 430, 440, 445, 450). (Prerequisite(s): CNEL 1510, CNEL 1520, CNEL 1530, CNEL 1540, CNEL 1550, CNEL 1560, CNEL 1570 and MATH 1420) 3C/0/3/0

CNEL 2460 Electromechanics

Covers the ratios and relationships of mechanical energy as it is used to move and support electrical equipment. The course also deals with electrical controls and sensors used in the operation of heating and air conditioning units. (Prerequisite(s): CNEL 1510, CNEL 1520, CNEL 1530, CNEL 1540, CNEL 1550, CNEL 1560, CNEL 1570 and MATH 1420) 1C/0/1/0

CNEL 2510 Wiring Systems

Covers conductor properties, single and three phase voltage drop and three wire circuits. (Prerequisite(s): CNEL 2410, CNEL 2420, CNEL 2430, CNEL 2440, CNEL 2450 and CNEL 2460) 2C/0/2/0

CNEL 2520 Wiring Methods

Basic wiring methods, pipebending, anchors, knockout methods and material identification are covered. (Prerequisite(s): CNEL 2410, CNEL 2420, CNEL 2430, CNEL 2440, CNEL 2450 and CNEL 2460) 2C/0/2/0

CNEL 2540 Commercial Wiring Methods
Material and design aspects of commercial wiring are covered. Topics include commercial power tools, metering, equipment and commercial wiring methods. (Prerequisite(s): CNEL 2410, CNEL 2420, CNEL 2430, CNEL 2440, CNEL 2450 and CNEL 2460) 3C/0/3/0

CNEL 2550 Industrial Wiring Methods & Service Entrances
Covers both the requirements and installation of service entrance equipment and the installation methods and material used in industrial wiring. (Prerequisite(s): CNEL 2410, CNEL 2420, CNEL 2430, CNEL 2440, CNEL 2450 and CNEL 2460) 2C/0/2/0

CNEL 2560 National Electric Code 2
Requirements of the National Electrical Code Chap. 1-5 are covered. (Prerequisite(s): CNEL 2410, CNEL 2420, CNEL 2430, CNEL 2440, CNEL 2450 and CNEL 2460) 3C/0/3/0

CNEL 2575 Alarm Data and Communication Systems
This course includes hands-on applications of components in fire alarm systems, alarm systems, data communication and cabling systems. (Prerequisite(s): CNEL 1420) 2C/1/1/0

■ Cosmetology, Nail Care and Esthetician Core Courses

CHSN 1410 Preclinic Introduction
Provides an introduction to cosmetology, nail technology or skin care, including professional image, Minnesota laws and rules, safety and sanitation. (Prerequisite(s): High School Diploma and/or a GED) 4C/3/1/0

CHSN 1420 Body Systems and Diseases
This course presents cells, tissue and organs to aid in understanding histology and physiology of the skin, hair and nails and how they work together to form body systems. Major body systems will be explained along with their impact on the skin, hair and nails. Students will study skin, hair and nail diseases and disorders in order to differentiate treatable disorders from those that require referral to a physician. (Prerequisite(s): Enrollment in Cosmetology, Nail Technician or Esthetician Program and concurrent enrollment in CHSN 1410) 4C/3/1/0

CHSN 1461 Clinic 1
This course provides students with an opportunity to develop the practical skills necessary in basic nail care and to complete required services and hours for licensure related to basic nail care. (Prerequisite(s): COSM 1407) 3C/0/3/0

CHSN 1462 Clinic 2
This course of the skin care program is designed to provide clinical practice of previously learned skin care skills. (Prerequisite(s): CHSN 1420, ESTH 1445 and ESTH 1455 or concurrent enrollment) 4C/0/4/0

CHSN 1463 Clinic 3
This course is designed to provide clinical practice of previously learned skin care skills. This course provides the necessary hours to complete skin care quotas as mandated by the State of Minnesota. (Prerequisite(s): Students must have 480 clock hours and have completed all preceding courses in the Esthetics program, CHSN 1462) 4C/0/4/0

CHSN 1464 Clinic 4
Provides students with an opportunity to develop the practical skills in cutting and styling necessary for entry-level salon work. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1415) 4C/0/4/0

CHSN 1465 Clinic 5
Provides students with an opportunity to develop the practical skills in coloring and chemical reformation necessary for entry-level salon work. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1413 and 1415) 3C/0/3/0

■ Cosmetology

COSM 1405 Preclinic Hair Care 1
Provides students with the opportunity to develop basic hair skills with a focus on trichology, shampoo, conditioning, cutting and finishing hair techniques. (Prerequisite(s): Completion of or concurrent enrollment in CHSN 1410 and CHSN 1420) 3C/0/3/0

COSM 1406 Preclinic Hair Care 2
Provides students with the opportunity to continue to develop hair service skills with a focus on shampooing, conditioning, styling, long hair, wigs and extensions. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1405) 3C/1/2/0

COSM 1407 Preclinic Nail Care
Provides an introduction to nail care including manicuring, pedicuring and artificial nails. (Prerequisite(s): Completion of or concurrent enrollment in CHSN 1410 and CHSN 1420) 3C/1/2/0

COSM 1409 Preclinic Chemical Control
Provides an introduction to cosmetology chemicals and their applications. This includes curl reformation—permanent waving, soft curl perming and chemical relaxing. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1405 and COSM 1407) 3C/1/2/0

COSM 1413 Preclinic Hair Color
Provides an introduction to temporary, semi-permanent, permanent and de-colorization hair color services. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1409) 3C/1/2/0

COSM 1415 Advanced Hair Care
Provides advanced skill training, color and chemical reformation in hair cutting and styling. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1413) 3C/0/3/0

COSM 1451 Salon Operations 1
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology) or CHSN 1461 (Nail Technician)) 1C/0/1/0

COSM 1452 Salon Operations 2
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology), or CHSN 1461 (Nail Technician)) 2C/0/2/0

Course Descriptions

COSM 1453 Salon Operations 3
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology), or CHSN 1461 (Nail Technician)) 3C/0/3/0

COSM 1454 Salon Operations 4
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology), or CHSN 1461 (Nail Technician)) 4C/0/4/0

COSM 1455 Salon Operations 5
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology), or CHSN 1461 (Nail Technician)) 5C/0/5/0

COSM 1456 Salon Operations 6
Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1465 (Cosmetology), or CHSN 1461 (Nail Technician)) 6C/0/6/0

COSM 1491 Cosmetology Internship
Designed to provide the student with a purposeful occupational experience in the Cosmetology field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the Salon/Cosmetology site to provide experience related to the skills and knowledge acquired in the program. One credit of internship is equal to 48 hours of internship. (Prerequisite(s): Completion of required 1550 hours for licensure AND successful performance on Cosmetology Licensure Exam) Variable 2–8 credits

COSM 1520 40 Hour Refresher
Provides students with the Minnesota 40 hour refresher course requirements needed for license renewal. (Prerequisite(s): Previous MN Cosmetology license) 2C/2/0/0

COSM 1522 Nail Technician Refresher Course
This 35 hour refresher course is for individuals who do not have enough hours of work experience in the past 3-year license period and wish to renew their individual manicuring license. 2C/1/1/0

COSM 1565 155 Hour Reactivation Course
This course covers provides 155 hours of the theory and practical requirements for reactivating a cosmetology license. (Prerequisite(s): Previous MN Cosmetology license) 6C/3/3/0

COSM 2580 Cosmetology Instructor Licensure
This course covers 30 hours of teaching methods for Cosmetology and 8 hours of the laws that support and protect the Cosmetology industry. 2C/1/1/0

■ Culinary Arts

CULA 1400 Introduction to Culinary Arts
Provides student with an understanding of employment opportunities, program format, Saint Paul College policies, as well as introducing them to the staff and the facility. 1C/1/0/0

CULA 1410 Basic Baking
Provides students with an introduction to the art and science of baking. Ingredients, ingredient function, measurement, formulas and methods will be covered. A variety of baked items will be produced. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 2C/0/2/0

CULA 1420 Basic Pantry
Focuses on cold food preparation and presentation. Beginning with basic knife skills, all aspects of pantry and kitchen prep work will be discussed and practiced. A variety of salads, salad dressings, hors d'oeuvres and related items will be prepared. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 2C/0/2/0

CULA 1430 Basic Range
Focuses on the foundations of hot food cookery. Stocks, sauces and soups will be discussed and practiced in detail. Vegetable cookery and the sauté station will also be included. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 2C/0/2/0

CULA 1440 Breakfast
Covers the many types of foods usually associated with breakfast/brunch service. Most of these items will be prepared and served in the class. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 1C/0/1/0

CULA 1450 Meat Fabrication
Covers the processing of meat, fish and poultry items, etc. Issues of grading, yield, market forms and standards are discussed. Many types of meat, fish and poultry are processed in the class. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 2C/0/2/0

CULA 1460 Basic Menu Production
Covers the production of the entire menu. Individual responsibility and teamwork are the cornerstones of successful foodservice and of this course. A new menu will be prepared each day by each team. (Prerequisite(s): CULA 1400 or concurrently with CULA 1400) 2C/0/2/0

CULA 1470 Food Service Sanitation
Develops an understanding of the basic principles of sanitation and safety in order to maintain a safe and healthy environment for the consumer. Servsafe test included. 2C/2/0/0

CULA 1480 Nutrition
Covers the fundamentals of nutrition theory taught from the point of view of the chef. Healthy cooking techniques and dietary requirements are emphasized. 2C/1/1/0

CULA 1490 Food Service Math
An assessment and review of math skills necessary for foodservice workers. Functions with whole numbers, fractions, decimals and percentages are covered and applied to food service problems. 2C/2/0/0

CULA 1510 Commercial Bakery Production
Allows students to develop production baking skills to a marketable level. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490) 2C/0/2/0

CULA 1520 Commercial Pantry Production
Allows the students to develop marketable production skills in the pantry/cold food area. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490) 2C/0/2/0

CULA 1530 Commercial Range Production
Allows students to develop marketable skills in many aspects of

hot food preparation in a production kitchen environment. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490) 2C/0/2/0

CULA 1535 Catering
This course will allow students to have the opportunity to plan, prepare, serve and clean up a catered function. Another important part of the course will be the opportunity for the students to interface with the customer directly during the service time and the post service evaluation from the student personal evaluation of the event. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490) 1C/0/1/0

CULA 1540 Food Service Supervisory Management
Allows students to prepare for the transition from employee to supervisor by developing human relations and personnel management skills in a foodservice environment. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490 or instructor approval) 2C/0/2/0

CULA 1550 Grill/Short Order Cooking
Allows the student to develop marketable production skills in the Grill/Short Order cooking area. (Prerequisite(s): CULA 1460, CULA 1470, CULA 1480, CULA 1490) 2C/0/2/0

CULA 1560 Food/Beverage/Labor Cost Control
Covers the principles of menu pricing and analysis, budgeting and inventory control systems in foodservice operations. (Prerequisite(s): CULA 1490 or instructor approval) 3C/3/0/0

CULA 1570 Basic Cake Decorating
Allows students to develop cake/pastry decorating skills to a marketable level. 2C/0/2/02

CULA 1600 Professional's Introduction to Wine
Review the origins and history of the vine, vineyard calendar, soil and climate, natural hazards, growing regions and major grape varietals of the world. Examine considerations for harvest of grapes, techniques for making still wines (red, white and rose), techniques for making sparkling and fortified wines, processing and aging techniques and the blending process. Explore grape varietals, regulations, history, culture and traditions: USA, France, Italy, Spain/Portugal, Germany, Australia, South America and South Africa. (Prerequisite(s): Must be 21 years or older. Must be taken concurrently with CULA 1600-1640.) 2C/2/0/0

CULA 1610 Flavor Dynamics of Wine
Experience professional wine evaluation based on sensory (visual, organoleptic) traits. Comparison and analysis of world wine regions. Includes an emphasis on the development of a wine vocabulary and sensory description techniques. (Prerequisite(s): Must be 21 years or older. Must be taken concurrently with CULA 1600-1640.) 2C/1/1/0

CULA 1620 Professional Wine Service
Allows student to develop professional wine service techniques, wine etiquette, glassware/equipment options, building a relationship with the guest and elements of the guests' aesthetic experience. (Prerequisite(s): Must be 21 years or older. Must be taken concurrently with CULA 1600-1640.) 1C/1/0/0

CULA 1630 Strategies for Pairing Wine with Food
Allows student to analyze the rationale behind successful wine and food pairings and the impact of preparation techniques on wine choice. Learn how to enhance wine and food pairing opportunities and improve menu and wine list compatibility.

(Prerequisite(s): Must be 21 years old or older. Must be taken concurrently with CULA 1600-1640.) 2C/1/1/0

CULA 1640 Wine Marketing
This course will allow students to review legalities, wine market cycles, wine pricing, developing a wine program, building a wine list and wine storage. An important part of the course is to develop strategies for determining your target market, wine merchandising and promotional opportunities, consumer education and building strong repeat business. (Prerequisite(s): Must be 21 years old or older. Must be taken concurrently with CULA 1600-1640.) 2C/2/0/0

CULA 2410 Restaurant Operations Theory
Requires students to develop marketable skills in the areas of menu planning, menu analysis, production scheduling and recipe interpretation for different menu settings and operations. Must be taken as a block with CULA 2411-2430. (Prerequisite(s): CULA 1550) 2C/2/0/0

CULA 2411 Restaurant Operations Lab 1
Requires students to develop marketable skills in many aspects of hot and cold food preparation in a fine dining environment Must be taken as a block with CULA 2410-2430. (Prerequisite(s): CULA 1550) 3C/0/3/0

CULA 2412 Restaurant Operations Lab 2
Requires students to develop marketable skills in many aspects of hot and cold food preparation in a fine dining environment. Must be taken as a block with CULA 2410-2430. (Prerequisite(s): CULA 1550) 3C/0/3/0

CULA 2420 Service
Covers serving techniques and dining room operations through classroom and laboratory experience in a dining room. Service styles emphasized will be American, family style and buffet. French and Russian styles will be discussed. Must be taken as a block with CULA 2410-2430. (Prerequisite(s): CULA 1550) 2C/0/2/0

CULA 2430 Advanced Foods and Wine Appreciation
Requires students to participate in the preparation of various items which are somewhat unusual on daily menus due to their complexity, scarcity, cost, or origin. Includes introduction to wines—theory, tasting and pairing with food. Must be taken as a block with CULA 2410-2420. (Prerequisite(s): CULA 1550 and completion of General Education requirements) 2C/0/2/0

CULA 2440 Ice Carving
Allows students to develop marketable skills in the art and craft of ice carving. (Prerequisite(s): CULA 1570 or instructor approval) 1C/0/1/0

CULA 2450 Advanced Cake & Pastry
Allows students to explore and develop skills in a variety of pastry, confectionery and other food sculpture mediums. Requirements also include the production of a tiered cake. (Prerequisite(s): CULA 1570 or instructor approval) 2C/0/2/0

CULA 2460 Classical Buffet
Allows students to explore concepts and practice techniques necessary to prepare a classical haute cuisine buffet. Emphasis will be placed on the design and presentation of food items. Each student will design and produce two display platters consisting of meat, fish and poultry products with all necessary accompanying items. (Prerequisite(s): CULA 1550 and completion of General Education requirements) 3C/0/3/0

Course Descriptions

■ Economics

ECON 1710 Introduction to American Economy
This introductory course provides students with an overview of the U.S. economic system. (MnTC: Goal 5) 3C/3/0/0

ECON 1720 Macroeconomics
An introductory study of macroeconomics. Emphasis on the theory of demand and supply, historical and contemporary macroeconomic theories, national income, fiscal and monetary policy, money and banking, the Federal Reserve System, unemployment and inflation, business cycles and price level determinants. The impact of international economics will also be discussed. (MnTC: Goals 5 & 8) 3C/3/0/0

ECON 1730 Microeconomics
An introductory study of microeconomics. Emphasis is on price system, resource allocation, production costs, consumers, firms and market structures and application of theory. Monopoly, oligopoly and antitrust policy will be examined. Public good, income distribution and the economics of taxation and social choice will be discussed in light of current economic issues. The impact of international economics will also be discussed. (MnTC: Goals 5 & 8) 3C/3/0/0

■ Electrical Maintenance

See Construction Electricity (Electrical Maintenance)

■ Electronic Technology

ELEC 1410 DC Theory
Covers the introduction to the electron theory, series and parallel resistive circuits for direct current. The course will also introduce the use of test equipment associated with basic electronic concepts. 2C/1/1/0

ELEC 1411 DC Lab
Covers the introduction to the electron theory, series and parallel resistive circuits. The course also covers the usage of test equipment associated with basic electronic concepts. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 1420 AC Theory
Explores alternating current and it's effects on a variety of components in series, parallel and series/parallel circuits. Use of the oscilloscope and frequency generation will be included. This course should be taken with ELEC 1421. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/1/1/0

ELEC 1421 AC Lab
Introduces the student to alternating current. Inductive and capacitive reactance will also be covered. Types of filter circuits and applications will be presented. The oscilloscope usage along with the frequency generator will also be covered. This course can be taken with ELEC 1420. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 1422 AC Lab/AAS
Introduces students to alternating current. Inductive and capacitive reactance will also be covered. Types of filter circuits and applications will be presented. The oscilloscope usage along with the frequency generator will be covered. This course can be taken with ELEC 1420. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 1430 Solid State Theory
Introduces the practical application of diodes and transistors. The student will analyze simple circuits that perform AC rectification, amplification and DC regulation. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/1/1/0

ELEC 1431 Solid State Lab
Introduces the practical application of diodes and transistors. The student will construct and make measurements on simple circuits that perform AC rectification, amplification and DC regulation. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 1440 Electronic Circuit Analysis
Introduces the mathematical analysis of simple and complex electronic circuits. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 1510 Digital Logic 1 Theory
Covers digital number systems, conversion techniques and codes; basic logic gates and their truth tables; Boolean algebra and Karnaugh mapping of combination logic circuits; and Digital IC terminology. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/1/1/0

ELEC 1511 Digital Logic 1 Lab
Covers the practical application of basic logic gates and combinational logic circuits; TTL and CMOS IC families and their characteristics. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 1512 Digital Logic 2 Theory
Covers the theory and application of advanced digital circuitry required in the operation of computers systems. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/1/1/0

ELEC 1513 Digital Logic 2 Lab
Covers latches, flip-flops, control logic, timing diagrams, arithmetic circuits, counters, shift register, shift counters, encoders, decoders, displays, multiplexing, demultiplexing and memory systems. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 1514 Digital Logic 2 Lab/AAS
Covers latches, flip-flops, control logic, timing diagrams, arithmetic circuits, counters, shift register, shift counters, encoders, decoders, displays, multiplexing, demultiplexing and memory systems. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 1530 Advanced Solid State Theory
Covers the theory of and introductory application of Field Effect Transistors, four-layer devices (UJT's, SCR's, PUT's, Triacs, Triads, Diacs), light detecting devices (LDD's), operational amplifier integrated circuits and 555 timer integrated circuits. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/1/1/0

ELEC 1531 Advanced Solid State Lab
Covers the application of Field Effect Transistors, four-layer devices (UJT's, SCR's, PUT's, Triacs, Triads, Diacs), light detecting devices (LDD's), operational amplifier integrated circuits and 555 timer integrated circuits. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/0/3/0

ELEC 2400 Computer Fundamentals & Troubleshooting
This course will provide the technician with practical experience in the use of applications related to diagnosis,

service, repair and documentation to support repair of electronic equipment. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 2410 Personal Computer Service & Repair Theory
This course covers personal computer theory, operation, service and repair including peripheral equipment. This course will use IBM and/or IBM type computers in a hands on approach to basic computer maintenance. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 2411 Personal Computer Service & Repair Lab
Hands on course in assembling, maintaining, repairing and servicing IBM type computers, peripherals and associated hardware. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 4C/0/4/0

ELEC 2412 Personal Computer Service & Repair Lab/AAS
Hands on course in assembling, maintaining, repairing and servicing IBM type computers, peripherals and associated hardware. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/0/3/0

ELEC 2430 Computer Operating Systems & Programming
Introduce the operation and use of computer operating systems and a high level language. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 2C/0/2/0

ELEC 2510 Linear Devices Theory
This course covers the theory of and Introductory application of Field Effect Transistors, four- layer devices (UJT's, SCR'S, PUT'S, Triacs, Triads, Diacs), light detecting devices (LDD's), operational amplifier Integrated circuits and 555 timer Integrated circuits. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 2511 Linear Devices Lab
This course covers the application of Field Effect Transistors, four-layer devices (UJT's, SCR'S, PUT'S, Triacs, Triads, Diacs), light detecting devices (LDO's), operational amplifier Integrated circuits and 555 timer Integrated circuits. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 4C/0/4/0

ELEC 2520 Interfacing Theory
This course covers Interfacing circuitry used in the conditioning and modification of analog signals. This includes circuitry designed to allow computers, sensors and power control devices to communicate with each other. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 2521 Interfacing Lab
This course provides hands-on construction and use of Interfacing circuitry used in the conditioning and modification of analog signals. This includes circuitry designed to allow computers, sensors and power control devices to communicate with each other. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 4C/0/4/0

ELEC 2530 Microprocessor Theory
This course covers microprocessor internal architecture, machine language programming, instruction format, addressing modes, data bus, arithmetic operations, timing diagrams, interrupts, interval timers, flow charting, peripheral interfacing, memory mapping, address decoding, program control, subroutine, stack and interrupt processing. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/1/2/0

ELEC 2531 Microprocessor Lab
This practical laboratory course covers mathematical and logical operations using various addressing modes. Counter, timers and input/output operations are utilized. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 4C/0/4/0

ELEC 2532 Microprocessor Lab/AAS
This practical laboratory course covers mathematical and logical operations using various addressing modes. Counter, timers and input/output operations are utilized. (Prerequisite(s): Enrollment in Electronic Tech Diploma/AAS) 3C/0/3/0

■ Energy Process Technology

ENGY 1410 Pumps, Compressors and Turbines
Covers the operation of several pump, compressor and turbine types, including the unique characteristics in terms of fluid flow principles, design, construction and prime movers. 3C/2/1/0

ENGY 1420 Instrumentation & Measurement
Students will use the measuring tools associated with mechanical repair, including the personal computer and instrumentation. 3C/2/1/0

ENGY 1510 Piping, Tubing & Steam Traps
Study of piping, tubing and disassembly, inspection, repair and assembly of gauge glass and steam traps. 3C/2/1/0

ENGY 1520 Hydraulics
Covers the principles of fluid power, pump inlet factors, actuator speed factors, hydraulic fluids and ANSI/ISO symbols. 3C/2/1/0

ENGY 1530 Equipment Repair
Covers the safe use of a variety of hand tools commonly associated with mechanical repair, metallurgy, shop machines and system diagrams. 4C/3/1/0

ENGY 2410 Energy Systems & Components
Students will understand the basic purpose, structure and operation of a power plan system, including boiler and auxiliary equipment, combustion, condensers and circulating water. 3C/3/0/0

ENGY 2420 Energy Production
Students will understand energy production terminology and be able to use a multimeter to measure voltage, current and resistance. Students will also demonstrate an understanding of Ohm's law by solving series, circuit and parallel circuit problems. Electrical safety hazards will also be examined. 4C/3/1/0

ENGY 2430 Boiler Engineer Licensing
Students will gain an understanding of the systems which make up a power plant through hands-on experience operating a fossil simulator. The experience will provide skill needed for the Boiler Engineer License. 2C/1/1/0

ENGY 2510 Regulatory Compliance
Provides students with a basic knowledge of OSHA, EPA regulations and industry regulations. 3C/2/1/0

ENGY 2520 Valves & Gaskets
Students will be able to identify various types of valves and gaskets by their ANSI/ISO symbols and explain their functions. 2C/1/1/0

◼ English

ENGL 1711 Composition 1
This course emphasizes the process of writing expository and persuasive essays using effective writing skills and a variety of research techniques. The course includes an analysis of primary and/or secondary sources with a focus on critical reading, logical reasoning and academic research writing. (Prerequisite(s): Grade of "C" or better in COMM 0722, COMM 1415 or appropriate assessment score) (MnTC: Goal 1) 4C/4/0/0

ENGL 1712 Composition 2
This course emphasizes critical reading and analytical writing using literature as the basis for composition. The course includes an analysis of primary and/or secondary sources with a focus on academic writing. (Prerequisite(s): Grade of "C" or better in ENGL 1711) (MnTC: Goals 1 & 2) 2C/2/0/0

ENGL 1780 Recently Arrived—Contemporary Immigrant Literature
Some of the most compelling contemporary American literature has been written by first and second-generation immigrants to the United States. This course will cover a number of works that explore the difficult process of cultural adjustment for writers of various racial and ethnic groups. The course will cover the larger narrative of coming to America but also focus on particular literary, socio-cultural and historical issues. Students will discover how language and narrative strategies are employed by writers to create the story of their life: intergenerational conflicts, difficulties tied to language and the formation and re-formation of racial and ethnic identities as writers confront the demands of a new country and life. Immigration and naturalization laws at various moments in US history and how those laws have influenced contemporary literature will be discussed. (MnTC: Goals 6 & 7) 3C/3/0/0

ENGL 1790 Contemporary Writers of Color
This course examines American literature as a multi-voiced body and considers the contributions to that body by writers of color. Under consideration are writings by Native American, Asian American, African American and Latino authors. Particular attention will be given to issues of race, gender, ethnicity, class and sexuality and how these issues are reflected in the complicated construction of identity. As a means of considering how various racial identities are constructed and expressed in literature, contemporary and recently-published work by writers from these groups will be read. In order to provide appropriate context for readings and discussions, the class will consider relevant cultural and social histories of these writers as well. (MnTC: Goals 6 & 7) 3C/3/0/0

ENGL 2721 Survey of American Literature 1
A survey of American poetry, essays, novels and short stories from colonial times to the end of the Civil War. This course will help the student to discover the definitions of these distinctive genres, their unique boundaries and potential and what distinguishes them from other forms of writing. The historical, political and cultural background of the time will also be covered in this course, so that the student will find the readings to be more interesting and accessible. (Prerequisite(s): Grade of "C" or better in ENGL 1711) (MnTC: Goals 6 & 7) 3C/3/0/0

ENGL 2722 Survey of American Literature 2
A survey of American poetry, essays, novels and short stories from the end of the Civil War to the present. A continuation of Survey of American Literature I. This course will help the

student to discover the definitions of these distinctive genres, their unique boundaries and potential and what distinguishes them from other forms of writing. The historical, political and cultural background of the time will also be covered in this course, so that the student will find the readings to be more interesting and accessible. While not a requirement, the student will find this course more enjoyable if he has first taken Survey of American Literature I. (Prerequisite(s): Grade of "C" or better in ENGL 1711) (MnTC: Goals 6 & 7) 3C/3/0/0

ENGL 2730 Post-Civil War American Novel
A study of the American novel after the Civil War. Beginning with Mark Twain's **Huckleberry Finn**, this course seeks to discover the unique boundaries and potential of the American novel, what distinguishes it from other forms of literature and how the form changed as the American culture changed. The historical, political and cultural background of the time will also be covered in this course, so that the student will find the readings to be more interesting and accessible. (Prerequisite(s): Grade of "C" or better in ENGL 1711 Composition) (MnTC: Goals 2 & 6) 3C/3/0/0

ENGL 2740 Native American Literature
Through an analysis of structural and thematic elements, this course seeks to discover the unique additions that Native American writers have brought to the traditional literary canon. Special attention will be given to the historical and cultural aspects of the text. This course is designed to introduce the concept of narrative voice in literature and provide critical techniques for its analysis. (Prerequisite(s): Grade of "C" or better in ENGL 1711) (MnTC: Goals 6 & 7) 3C/ 3/0/0

ENGL 2750 African American Literature
Through an analysis of structural and thematic elements, this course seeks to discover the unique additions that African American writers have brought to the traditional literary canon. Special attention will be given to the historical and cultural periods, such as the Harlem Renaissance. Moreover, this course is designed to introduce how African American literary criticism has been instrumental in validating and placing African American works in a literary tradition. (Prerequisite(s): Grade "C" or better in ENGL 1711) (MnTC Goals: 6 & 7) 3C/3/0/0

ENGL 2760 English Novel
Why did the novel as a genre emerge in England during the beginning of the 18th century? Beginning with Daniel DeFoe's **Moll Flanders**, this course seeks to discover the unique boundaries and potential of the English novel, what distinguishes it from other forms of literature and how the form changed as the English culture changed. The historical, political and cultural background of the time will also be covered in this course, so that the student will find the readings to be more interesting and accessible. (Prerequisite(s): Grade of "C" or better in ENGL 1711 Composition)(MnTC: Goals 2 & 6) 3C/3/0/0

ENGL 2770 Introduction to Poetry
This course will focus on the formal aspects of meter and prosody in order to objectify and demystify meaning in poetry. This course will help the student discover the various poetic forms and why a poet would choose one form over the other. In order to facilitate meaning, lectures and additional reading will focus on the social and political climates in which the poems were written. (MnTC: Goals 2 & 6) 3C/3/0/0

■ Esthetician

ESTH 1445 Cosmetic Chemistry and Makeup Applications
Chemistry is a science that deals with the composition, structure and properties of matter and how matter changes. This course covers the composition of product ingredients, changes produced by cosmetic products, color theory, make up application techniques and temporary hair removal (Prerequisite(s): CHSN 1410, CHSN 1420 or concurrent enrollment) 4C/1/3/0

ESTH 1455 Skin Analysis and Massage
Students will learn to greet customers and to consult in a professional manner. Students will learn to perform draping, skin analysis and proper massage techniques according to client's skin type. Students will learn in a supervised setting, care and proper use of esthetic equipment. Emphasis is on maintaining safety. (Prerequisite(s): CHSN 1410 and CHSN 1420 or concurrent enrollment) 4C/1/3/0

ESTH 1460 Reflexology
This course will introduce the student to the core abilities of reflexology. The student will learn to accept responsibility for safe and effective practice of reflexology, appreciate theories and origins of reflexology, compare and contrast modalities of reflexology, assess the "rules" for practice of reflexology, cmprehend the ethical and legal responsibilities of the clinical reflexologist. (Prerequisite(s): Applicant must be either a licensed esthetician or a massage therapist with 600 hours of training and a member of Associated Bodywork & Massage Professionals (ABMP) or American Massage Therapy Association (AMTA).) 2C/1/1/0

ESTH 1465 Aromatherapy
Aromatherapy for the spa technician. This class will prepare the esthetician or massage therapist to use aromatherapy for wellness in the spa. This course also prepares those students interested in taking the CIDESCO Aromatherapy exam. Applicant must be either a licensed esthetician or a massage therapist with 600 hours of training and a member of Associated Bodywork & Massage Professionals (ABMP) or American Massage Therapy Association (AMTA). 2C/1/1/0

ESTH 1551 Salon Operations for Estheticians 1
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 1C/0/1/0

ESTH 1552 Salon Operations for Estheticians 2
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 2C/0/2/0

ESTH 1553 Salon Operations for Estheticians 3
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 3C/0/3/0

ESTH 1554 Salon Operations for Estheticians 4
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 4C/0/4/0

ESTH 1555 Salon Operations for Estheticians 5
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 5C/0/5/0

ESTH 1556 Salon Operations for Estheticians 6
This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1463) 6C/0/6/0

ESTH 1585 Esthetics Refresher
This course offers the MN Department of Commerce mandated refresher course for licensure requirements or to expand the cosmetologist's knowledge of the Esthetics field. Refresher students must complete 40 clock hours. 2C/1/1/0

ESTH 1590 Esthetics Reactivation
This course offers the MN Department of Commerce mandated reactivation course for licensure requirements or to expand the cosmetologist's knowledge of the Esthetics field. This course includes preparation for the written law examination. Reactivation students must complete 60 clock hours. 3C/2/1/0

ESTH 2410 CIDESCO Exam Preparation
The CIDESCO Pre exam class will prepare the CIDESCO student candidate for all aspects of the CIDESCO exam including the facial exam, the body exam, additional subjects and the written exam. (Prerequisite(s): Completion of CIDESCO curriculum) 3C/0/3/0

■ Floor Covering

FLRC 1400 Introduction to Floor Covering
Provides a general overview of the floor covering trade and is intended only for Twin City Floor Coverers JATC. It is to be used as an entry-level course to acquaint the apprentice with all facets of the trade. 2C/2/0/0

FLRC 1410 Floor Covering Trade Math
A basic math course for the beginning floor covering apprentice. The emphasis and focus of this course will be measuring, estimating and layout of floors. It will be taught in conjunction with FLRC 1421. (Prerequisite(s): Apprentice in the floor covering trade) 1C/1/0/0

FLRC 1421 Carpet Installation & Safety 1
Covers beginning installation of carpeting. (Prerequisite(s): Apprentice in the floor covering trade) 2C/1/1/0

FLRC 1431 Vinyl Installation & Safety 1
Covers beginning installation and techniques for vinyl floor covering. The emphasis will be on substrate identification, product identification, reasons, needs and techniques of floor prep and Roto product installation systems. Roto vinyl will be installed in the practice facilities. (Prerequisite(s): Apprentice in the floor covering trade) 2C/1/1/0

FLRC 1440 Floor Covering Blueprint Reading
Provides an understanding of job description prints for the floor covering field. This course is taught in conjunction with FLRC 1431. (Prerequisite(s): Apprentice in the floor covering trade and all first year FLRC courses or the equivalent) 1C/1/0/0

FLRC 1510 Floor Covering Customer Relations
Covers basic relationships between floor covering professional installers and customers. Expression of job knowledge, appearance, courtesy and self-selling will be emphasized. This course will be taught in conjunction with FLRC 1522. 1C/0/1/0

FLRC 1522 Carpet Installation & Safety 2
Covers advanced carpet installation techniques. Upholstery, capping, hand sewing and insert work will be performed. (Prerequisite(s): FLRC 1421) 3C/0/3/0

FLRC 1532 Vinyl Installation & Safety 2
Covers intermediate vinyl installation techniques. Sub-floor preparation will be performed. Emphasis will be placed on product identification and product installation systems. Vinyl will be installed in the practice facility with emphasis on basic safety procedures. (Prerequisite(s): FLRC 1431) 3C/0/3/0

FLRC 2410 Introduction to Laminates & Hardwood Floors
Covers basic laminate installation of countertops and back splashes plus flat floor installation of pre-finished wood parquet and various types of pre-finished wood plank and laminate floors. (Prerequisite(s): FLRC 1400-1532 or equivalent) 3C/0/3/0

FLRC 2420 Introduction to Power Tool Safety
Covers application of assorted power tools common to the floorcovering trade and their safe application and use. (Prerequisite(s): FLRC 1422-2410 or equivalent) 2C/0/2/0

FLRC 2430 Installation Specialties & Safety
Focuses on inlaid vinyl and carpet inlaid design installation. Job site tool production and special installation methods will be covered. (Prerequisite(s): FLRC 1421, FLRC 1431, FLRC 1522, FLRC 1532) 3C/0/3/0

FLRC 2510 Advanced Floor Covering
General overview of the floor covering trade and is used as a testing tool of apprentice trade knowledge. 3C/0/3/0

■ Geography

GEOG 1730 Global Economic Geography
Combining lecture and hands-on experience, this course studies how humans earn their living in different locations throughout the world and then investigates the patterns and processes reflected in this geographic variation. Through theoretical location models and empirical spatial analysis, economic geography attempts to explain the variations in economic phenomena from place to place by focusing on the production, distribution, exchange and consumption activities. (MnTC: Goals 5 & 8) 3C/3/0/0

■ Geomatics (Land Surveying) and Mapping Sciences

CTEC 1390 AutoCAD for Geomatics
This two-credit course is designed to provide Geomatic students with basic AutoCAD skills. Students receive hands-on computer training using Land Development Desktop and AutoCAD software. Students will become familiar with the basic commands and terminology of both Land Development Desktop and AutoCAD software. Students will be able to create, manage and edit project directories. 2C/1/1/0

CTEC 1391 AutoCAD 2 for Geomatics
This two-credit courses is designed to provide Geomatic students with continuing AutoCAD skills. Students will receive hands-on computer training using Land Development Desktop and AutoCAD software. Students will become familiar with the advanced commands and terminology of both Land Development Desktop and AutoCAD software. Students will be

able to create and manipulate paper space drawings, manage and edit project files and directories. (Prerequisite(s): CTEC 1390 or instructor approval) 2C/1/1/0

CTEC 1415 Surveying Fundamentals
This course covers topics in approximately the first 60% of the text noted below. This integration of field and classroom focus will introduce students to field measurements with automatic level, theodolites and hand written field notebooks, total stations with hand written field notebooks and, if time and weather permit in a fall semester course, total stations with electronic field books or data collectors. Field data will be processed via AutoCAD and Land Development Desktop computer modeling software, studied concurrently in a parallel course. Textbook topics will include probability and statistical analysis of errors, use of instruments, basic mathematics of surveying, angle and curve geometry. 4C/2/2/0

CTEC 1441 Computer Aided Design 1
This course is an introduction to AutoCAD basic computer drafting software and the AutoDesk software specific to land modeling surveying and civil engineering technology. It is the first semester of a two-semester sequence. This course is a companion to the Introductory Surveying course and must be taken concurrently. 3C/1/2/0

CTEC 1442 Computer Aided Design 2
This course is a continuation of the use of AutoDesk software specific to land modeling surveying and civil engineering technology. It is the second semester of a two-semester sequence. This course is a companion to the Intermediate Surveying course and must be taken concurrently. 3C/1/2/0

CTEC 1515 Intermediate Surveying
This course will cover topics on circular, vertical and spiral curves, approximately the last 40% of the textbook. It includes the study of street, storm and sewer plans. Also covered are: highway plans and profiles; cross sections; areas and volumes of earthwork. Field projects include: staking of curves, layout of alignments on the campus, using points in the data collector sent to the total station, from those generated in Land Development Desktop computer modeling and design. (Prerequisite(s): CTEC 1415, CTEC 1441) 4C/2/2/0

CTEC 1535 Coordinate Geometry, Control Surveys, Boundary Surveys
This course covers selected topics from the text noted below, plus supplemental materials. This is largely a lecture and classroom laboratory course on advanced topics not covered in the introductory and intermediate courses. (Prerequisite(s): Completion of first year of program) 3C/3/0/0

CTEC 1591 Occupational Internship
Student occupational internship in Surveying and Civil Technology usually takes place in the summer between the first and second year of the program. Students receive on-the-job training through full time employment (at standard wages) in one or more of the following areas: Surveying, inspection, testing, computer drafting. (Prerequisite(s): Completion of one year in the program) 3C/0/0/3

CTEC 2520 Introduction to GPS/GIS
This course introduces basic concepts and methods for GPS (Global Positioning Systems) and GIS (Geographical Information Systems). Students will work with GPS field equipment and computer model data from GPS and other sources while learning the ArcView by ESRI software. (Prerequisite(s):

Completion of the first year of this program, specifically CTEC 1415, CTEC 1441, CTEC 1442, CTEC 1515) 4C/2/2/0

CTEC 2530 Hydrology & Hydraulics
Introduces methods of calculating runoff values from watersheds. Identifies culvert, storm sewer, sanitary sewer shapes and material types. Introduces design of culverts and storm sewers. Covers basics of weir, pipe and open channel flow. (Prerequisite(s): Second year status or consent of instructor) 3C/1/2/0

CTEC 2545 Remote Sensing 1
This is a survey course that covers analysis of imagery used in mapping surveys, general mapping and an overview of various systems such as imagery ground control and introduction to photogrametry. The course will include site visits to facilities that use these systems. (Prerequisite(s): Completion of Geomatics technical courses including GPS/GIS or comparable program from an accredited institution) 3C/2/1/0

CTEC 2546 Remote Sensing 2
This is a survey course that introduces students to the use of multiple remote sensing equipment and techniques: Radar, Laser, EDM, IFSAR, Photogrametry, Airborne LiDAR, Ground Based LiDAR, Satellite Imagery and 3D Visualization. Lab experience will include site visits to state agencies and other facilities that use these processes and systems. (Prerequisite(s): Completion of Geomatics technical courses including GPS/GIS or comparable program from an accredited institution.) 3C/2/1/0

CTEC 2550 Site Design
This course is an overview of site engineering and land development from both a surveying/engineering viewpoint, but also from a regulatory and site use view. This course integrates many of the concepts of the previous year of study. The course will be approached as a seminar format presentation, with each student leading a discussion of a chapter per class period. Additional projects, outside the classroom may be required. (Prerequisite(s): Second year status, CTEC 2530 recommended) 3C/1/2/0

■ Health

HLTH 1410 Medical Terminology
Students recognize and build medical terms after learning the meaning of word parts. A computer lab may be utilized to review terminology and provide practice in word building. (Accuplacer Reading score of 70 or above) 1C/0/1/0

HLTH 1415 Success Strategies for Health Care Providers
This course assists the health program student in meeting basic skills in critical thinking, problem solving, test taking and comprehension as they apply to health care. This course is designed to help the student who is seeking to improve critical thinking skills in health care or who must complete required remediation within a health program. (Prerequisite(s): Instructor recommendation) 2C/2/0/0

HLTH 1420 Anatomy & Physiology
Assists the student to acquire basic knowledge of body structure and function. Emphasis is on the healthy body. The content in this course prepares the student to understand common diseases. (Prerequisite(s): Grade of "C" or better in HLTH 1410 or concurrent enrollment) 4C/4/0/0

HLTH 1425 Clinical Applications in Kinesiology
This is a course in the applied study of human movement. Students will study muscles of the body, origin and insertion sites, nerve innervation, associated bones and bony landmarks and action. Students will investigate planes of movement, types of joints, discuss directions and positions of the human body and perform basic structural assessment. Adhesions and Trigger Points will be discussed and palpated. This course will also look at the theory and practice of functional muscle testing. (Prerequisite(s): HLTH 1420 Anatomy & Physiology, physical ability to palpate the human body, willingness to view selected Human Cadaver videos) 3C/1/2/0

HLTH 1430 CPR/First Aid
Includes training in administration of cardiopulmonary resuscitation and basic first aid skills. Lecture material will include anatomy and physiology of the heart and lungs, universal blood and body fluid precautions, AIDS and common medical emergencies. Course certificates for CPR and first aid will be issued upon successful completion. 1C/1/0/0

HLTH 1432 CPR for the Professional
This is course "C" American Heart Association or American Red Cross CPR for the Professional. Skills are demonstrated for basic life support including 2 rescuer techniques. AED training provided. Theory is presented related to heart disease prevention. Course certificate will be issued upon successful completion. 1C/1/0/0

HLTH 1450 Health Care Law & Ethics
Introductory course in the ethical and legal aspects of healthcare practice. Major ethical systems are used to examine issues in the field of health care. Legal positions that have an impact on the delivery of health care are presented. (Accuplacer reading score of 70 or above) 2C/2/0/0

HLTH 1455 Yoga Postures/Asanas
Creating a yoga practice increases mental clarity, energy and vitality in daily life. This course presents yoga principles and postures called asanas which provide a workout that enhances strength, flexibility and balance. The student will create a series of poses that massages the internal organs, improves circulation, digestive functions and other body processes. Students will study an overview of the many health benefits through yoga practice. (Prerequisite(s): Discuss health issues limitations with the instructor. Details provided during the first class session.) 2C/1/1/0

HLTH 1456 Relaxation Therapy
This course is designed as an interdisciplinary course of study to support and encourage professional collaboration within Health careers. The focus of the course is on the application of relaxation techniques and theoretical frameworks to access and manage the impact of stress on everyday life. In this respect, this course presents new knowledge that will be applicable to the students in health studies, and massage. Inclusion of specific relaxation techniques that address stress and pain management strategies will be included in this curriculum. 2C/1/10

HLTH 1457 Yoga Postures 2
This course continues the study of yoga principles and postures. The student will refine the poses that massage the internal organs, improve circulation, digestive functions and other body processes. (Prerequisite(s): HLTH 1455 Yoga Postures/Asanas) 2C/1/1/0

HLTH 1460 Nutrition for the Health Professions
Helps the student develop an understanding of the fundamental principles of nutrition necessary to improve and maintain health, to prevent illness and to provide support and therapy during illness. (Prerequisite(s): Grade of "C" or better in HLTH 1410 and HLTH 1420 or concurrent) 2C/2/0/0

HLTH 1465 Nutrition for Wellness
Focus of this course is application of concepts of healthy nutrition in a wellness stetting. The course also provides the student with essential information for becoming skillful in health through diet. Includes an evaluation of one's personal condition and the various therapeutic properties of foods. 4C/3/1/0

HLTH 1470 Wellness Through the Lifespan
Provides the student with concepts of wellness and the mind/body connection throughout the human lifespan. This course focuses on the promotion of wellness, stress reduction, and integrative healthcare services involved in the progressive stages of physical, emotional, intellectual and social development throughout the lifespan. 4C/3/1/0

HLTH 1900 Pathology for Manual Therapists
This course is designed to teach the study of abnormal anatomy and physiology as well as basic pharmacology. Students will examine injury and disease related conditions most likely to be encountered in a massage therapy practice. Special attention is given to signs and symptoms, indications and contraindications of treatment methods, as well as instruction related to skin, neuromuscular and soft tissue conditions. Basic pharmacology will be examined along with drug/supplement interactions. (Prerequisite(s): Certificate in Massage Therapy or equivalent as evaluated by faculty) 4C/3/1/0

■ Health Unit Coordinator

HLUC 1410 Diagnostic & Therapeutic Procedures
Designed to acquaint the student with the patient's chart and doctor's orders for treatments, medications, diagnostic tests and medical procedures. The information presented provides knowledge essential for the processing of physician orders. 4C/4/0/0

HLUC 1420 Health Unit Coordinator Fundamentals
Introduces the student to the health care facility environment and procedures. Students will become acquainted with their role in the health care setting, including ethical and legal standards, customer relations, telephone and communication techniques, problem solving and basic human anatomy. 4C/4/0/0

HLUC 1510 Processing Physicians' Orders 1
Designed to develop student skills in reading and processing physicians' orders. It will include procedures for processing of orders related to patient diets, supplies, treatments and medications. Computer use in the processing of physicians' orders will be introduced. (This course must be taken in the semester immediately preceding internship.) (Prerequisite(s) or Co-Requisite(s): HLUC 1410, HLUC 1420) 3C/2/1/0

HLUC 1511 Processing Physicians' Orders 2
Designed to give the students hands-on applications in the processing of physicians' orders. Students will be given sets of handwritten and routine orders which they will read, interpret and process. The student will be introduced to more difficult orders than were introduced in HLUC 1510. (This course must

be taken in the semester immediately preceding internship.) (Prerequisite(s) or Co-Requisite(s): HLUC 1410 and HLUC 1420; Prerequisite(s): HLUC 1510) 3C/1/2/0

HLUC 2491 Health Unit Coordinator Internship
This is a cooperative training program with a community health care provider. The student will complete 120 hours of experience at the internship site. (Prerequisite(s): Completion of all HLUC courses with a "C" or better and instructor approval) 3C/0/0/3

■ History

HIST 1730 Contemporary World History
This course surveys Contemporary World History, from the end of World War II to the present with a focus on Europe, Asia, Africa, Latin America and the Middle East. Significant forces, ideas, events and people that have influenced the world since 1945 are studied while course themes highlight how and why events transpired and created change in people's lives. Historical events are studied to provide an appreciation for their influence on contemporary society and the implications they may hold for the future. (MnTC: Goals 5 & 8) 3C/3/0/0

HIST 1741 U.S. History 1: to 1865
This course surveys the political and social history of America from the seventeenth century to the end of the Civil War. The interaction of Europeans, Native Americans and Africans through the Colonial Era, the American Revolution and the Early Republic will be discussed. Topics covered also include Jacksonian Democracy, westward expansion, the role of women in the nineteenth century, nineteenth century immigration and the controversy over slavery. (MnTC: Goals 5 & 7) 3C/3/0/0

HIST 1742 U.S. History 2: from 1865 to the Present
This course surveys the political and social history of America from the end of the Civil War to the present. Topics covered include Reconstruction and racial segregation in the South, the Gilded Age and Progressive Era, the Great Depression of the 1930s, World Wars I and II, the war in Vietnam, the Civil Rights Movement and social movements of the 1960s. Throughout the course the roles of women, immigrants and people of color will be discussed. (MnTC: Goals 5 & 7) 3C/3/0/0

HIST 1750 Minnesota History
This course surveys Minnesota's historical development from the pre-Columbian period to the present. It focuses on the historic importance of Minnesota's geography and natural resources, American Indian-white relations, the development of Minnesota's unique political tradition and the emergence of Minnesota's diverse society and economy. Course readings, videos and class discussions are supplemented by visits to metro-area historic sites and the Minnesota Historical Society's History Center. In addition, students are exposed to the tools and techniques historians use to study the past as a part of completing research projects. (MnTC: Goals 5 & 10) 3C/3/0/0

HIST 1760 History of World Civilizations to 1500
This course surveys world history from the first civilizations to 1500 C.E. Course themes focus on political, ideological, economic, social, cultural, religious, technological and environmental developments in Africa, Eurasia and the Americas. (MnTC: Goals 5 & 8) 3C/3/0/0

HIST 1761 History of World Civilizations since 1500

This course surveys world history from 1500 C.E. to the present. Course themes focus on political, ideological, economic, social, cultural, religious, technological and environmental developments in Africa, Eurasia and the Americas. Special focus is given to global factors that allowed the West to exercise significant influence over the development of Africa, Asia and the Americas. (MnTC: Goals 5 & 8) 3C/3/0/0

HIST 1770 History of Women in the United States

This course explores the history of women in the United States from the colonial period to the present. We will investigate how women understood their lives as individuals and as members of families and communities. We will examine how ideologies of gender, race, class and sexuality framed the societies in which American women lived. We will also explore the strategies through which women of diverse races, classes and ethnicities struggled to control their own lives and their own identities. (MnTC: Goals 5 & 9) 3C/3/0/0

HIST 2740 Immigration and Ethnic History of the United States

This course surveys the experiences of immigrant groups and ethnic minorities within the United States from the colonial period to the present. The experiences of American Indians and immigrant groups from Europe, Africa, Asia and Latin America are explored and their contributions to a multi-cultural America are discussed. Additional course themes include: slavery and its legacies, US government American Indian policy and US government immigration policy. (MnTC: Goals 5 & 7) 3C/3/0/0

■ Hospitality Management

HSPM 1410 Introduction to Hospitality Management

This course provides an orientation to the hospitality industry. This includes an introduction to the structure of lodging, food service and tourism organizations, the role of lodging departments, the future of the industry and career opportunities. Course structure includes lecture, projects, discussion and guest speakers to learn about opportunities and trends. 3C/3/0/0

HSPM 1420 Introduction to Tourism

This course explores the travel and tourism industry. Students will examine growth trends that includes best travel options and working with foreign cultures and currencies. 3C/3/0/0

HSPM 2420 Lodging Systems

This course provides students the key principles in the lodging industry focusing on strategic planning as the foundation for operation effectiveness. 3C/3/0/0

HSPM 2440 Hospitality Marketing & Sales

This course provides principles and practices of marketing the services of the hospitality industry. Emphasis includes the marketing concept with applications leading to customer satisfaction. Review methods of external and internal stimulation of sales. 3C/3/0/0

HSPM 2591 Hospitality Management Internship

This course provides students the hands-on opportunity to work in the hospitality industry. 5C/0/0/5

■ Human Resources

HMRS 1400 Introduction to Human Resources

Covers an introduction to the basic principles of Human Resource functions and services. It will provide background and understanding for further Human Resources courses in the Human Resource Program. 3C/3/0/0

HMRS 1410 Recruitment & the Hiring Process

Provides students with a basic understanding of the employment and staffing function in an organization. Attention will be devoted to the recruitment process, effective interviewing, applicant evaluation techniques, legal requirements, reference checking, and new employee orientation programs. 3C/3/0/0

HMRS 1510 Human Resources Information Systems and Records

Covers the basic information and understanding of types of Human Resource records, employers' information needs, and government recordkeeping/reporting needs. It also includes an introduction to various HRIS software programs, with hands-on applications. 3C/2/1/0

HMRS 1520 Compensation and Benefits Administration

Covers basic information about various types of benefits that are typically offered by employers. The course covers mandatory government benefits and voluntary benefits. Also included is information about employee compensation and related federal laws. 3C/3/0/0

HMRS 1550 Strategies for Business Solutions

This course is designed to give students tools to enhance their critical thinking and problem solving skills relating to business issues. Personal leadership and management skills help students identify problems and opportunities, define goals, explore strategies, anticipate outcomes and learn from mistakes. Important topics include: time management, critical and creative thinking and decision making. 3C/3/0/0

HMRS 2410 Employee/Labor Relations

This course focuses on employee relations techniques such as: coaching, mentoring, performance management, employee discipline, workplace violence prevention, employee crisis management and effective communication including gender and generational communication in the workplace. Also covered are the labor relations issues that supervisors need to deal with on a daily basis when working in a union environment. 3C/3/0/0

HMRS 2420 Employment Law & HR Policies

Provides students with an understanding of EEO legislation and other federal laws relating to employment and the impact of these laws on an organization. Students will also study the emerging legal issues facing today's Human Resource Departments. The course will also define the needs for HR policies and the development of a variety of policies. 3C/3/0/0

HMRS 2520 Training & Development

Covers basic information about the training and development function in an organization and its role in building an effective workforce. Students study effective training techniques, lesson planning, preparations of training materials and are given opportunities to demonstrate training skills. Also included is information on various training evaluation systems. 3C/3/0/0

HMRS 2530 Human Resource Portfolio Competency Evaluation
This course is designed to review and reinforce principles covered in previous human resource courses and to provide perspective through applications and simulated activities. (Prerequisite(s): Advisor approval) 1C/1/0/0

HMRS 2591 Human Resource Internship
Designed to provide the student with a purposeful occupational experience in the Human Resource field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. (Prerequisite(s): Advisor approval) Variable 3–6 credits 3-6C/0/0/3-

■ Humanities

HUMA 1710 The Art of Being Human: An Introduction to Humanities
This course introduces themes central to human existence, from ancient times to the present. The themes are interpreted through art, music, literature, drama, film and philosophy. This course serves as an introduction to writing, art and ideas conceived throughout history. (MnTC: Goals 6 & 8) 4C/4/0/0

HUMA 1720 The Ancient and Medieval World
This course introduces students to the global humanities and shows the relationship between the culture of the past and life in the present. The course includes an examination of written works, art, architecture and music from Greece, Rome, the Middle Ages and the Renaissance. Texts, materials and interdisciplinary assignments will examine the arts and ideas of the West in relation to those of the other world cultures, including India, East Asia, Africa and Native America. (MnTC: Goals 6 & 8) 4C/4/0/0

HUMA 1730 The Modern World
This course introduces students to the global humanities and shows the relationship between the culture of the past and life in the present. The course includes an examination of written works, art, architecture and music from the Modern World. Texts, materials and interdisciplinary assignments will examine the arts and ideas of the West in relation to those of the other world cultures, including India, East Asia, Africa and Native America. ((MnTC: Goals 6 & 8) 4C/4/0/0

HUMA 1750 Culture and Civilization: Spanish-Speaking Cultures
Taught in English, this course introduces students to the mosaic of qualities that make up the culture and civilization of Spanish-speaking people of the Americas, Spain and elsewhere across the globe. To provide students with an awareness of the cultural, social, religious and linguistic values of Spanish-speaking cultures, multi-media resources (Internet, music, video) will be used to illustrate course topics including the arts, literature and history. This course may include guest speakers and visits to local Latino/Hispanic cultural centers. (MnTC: Goals 6 & 8) 3C/3/0/0

HUMA 1770 The Art of Film
This course is an introduction to film as an art form and as a medium for portraying ideas, myths, human concerns and aesthetic principles. The course includes an examination of film techniques, film theories and artistic styles of films such as formalism, surrealism, expressionism and neorealism. (MnTC: Goals 6 & 7) 3C/3/0/0

HUMA 1780 American Film
A study of American film both as an art form and as a medium of cultural communication and expression. The course is designed to improve "visual literacy" and to cultivate an ability to deal with film in an intelligent and critical way. The works of Edison, Porter, Griffith, Keaton, Chaplin, Ford, Copra, Wells, Hitchcock are examples of works to be studied. The course will offer representative examples of the major film genres and styles: the Western, Film Noir, Comedy, independent films and others. The film work of African American and female directors will be integrated into the course. (MnTC: Goals 6 & 7) 3C/3/0/0

HUMA 1790 International Film
A study of film as an art form and as a means of cultural communication from an international perspective. The course is designed to cultivate an ability to deal with film in a critical way, as well as broaden understanding of film and culture in a global context. Each semester a variety of national cinematic traditions will be examined including film works from Europe, Eastern Europe, Japan, Australia, New Zealand, China, Latin America and Canada. (MnTC: Goals 6 & 8) 3C/3/0/0

■ Industrial Machine Maintenance

INMM 1510 Lubrication/Bearings/Couplings
Covers basic principles of lubrication, types of bearings, methods of installation, common types of coupling devices found in modern manufacturing and how they should be maintained. 3C/1/2/0

INMM 2520 Gears/Chains/V Belts/Rigging
This course is an introduction to the common types of gearing used in industry, the operation, maintenance and repair of gear reducers. Types of v-belts and drive chains, their maintenance and alignment, as well as safe rigging procedures used in industrial machine repair applications. 3C/1/2/0

■ International Trade

INTL 1400 Introduction to International Trade
Introduces the student to the general field of international trade. Study will cover foreign investments, cultural differences, impact of trade agreements, international payments, logistics, taxation and personnel issues. This course provides the foundation for other International Trade courses. 3C/3/0/0

INTL 1410 International Communications and Cultural Awareness
Covers potential problems in the international transaction due to language, and cultural differences. Both written and oral issues will be discussed. In addition, the areas of social and business habits that are different from one country to another will be covered. An understanding of these various needs will help ease the international transaction. 3C/3/0/0

INTL 1510 Export Shipping and Documentation
Introduces students to the flow of merchandise in an international trade transaction using various modes of transportation, routing, paperwork, regulations and incoterms. The principle documents that must be prepared for shipments will be analyzed and created. Information will include the purpose of each documents, its function, common problems in preparing and processing this type of document. Discussion will include reviewing documents from the banker, freight forwarder and shipper perspective. Students will prepare and examine these documents. 4C/4/0/0

INTL 2410 International Economics
This course will look at the economic systems currently in place in countries of the world and why different economies affect international trade. Discussion will include quotas, trade restrictions and trade agreements. 3C/3/0/0

INTL 2420 US Customs and Importing
Provides students with the basic knowledge needed for customs clearance. This includes classification of products using the harmonized system, understanding import regulations, marking rules, preparing entry documentation, learning various types of entries and special provisions. This course will help prepare the student to take the U.S. Customs Broker exam. 3C/3/0/0

INTL 2430 US Customs Broker Exam Preparation
Prepares the student to take the U.S. Customs Broker exam. 3C/3/0/0

INTL 2491 International Trade Internship
Cooperative work study program between the Saint Paul College International Trade Program and a business facility to allow the student an employment-like experience. Job duties must reflect program goals. (Prerequisite(s): Instructor approval) Variable 1–3 lab credits

INTL 2497 International Trade Special Projects
The intent of this course is to allow flexibility in providing learning experiences to meet a special need of the student, the major program and the College. (Prerequisite(s): Instructor approval) Variable 1–3 lab credits

INTL 2510 International Banking and Finance
Provides the procedures involved in establishing credit for foreign transactions. Included are letters of credit, bankers acceptances, documentary collections, and money transfers. Also covered are country risk, and foreign exchange assessments, foreign risk, spot, forward, and option contracts and how they are used to reduce foreign currency risk exposure. This class is taught from exporter, importer, and banker perspectives. 3C/3/0/0

INTL 2520 International Business Law
Designed to be a basic course covering the law and practice of international trade, licensing and investment. The student will be introduced to the risks of international business and examine how those risks differ from doing business domestically. The student will study the function and importance of international public law, the role of international organizations and private dispute settlement procedures. Emphasis will be placed on the legal changes taking place, which affect the European market. Students will examine the constitutional division of authority between the Congress and the President with regard to the regulation of foreign trade. The course also covers the regulation of the international marketplace, including the law of foreign licensing and investment. 3C/3/0/0

INTL 2530 International Marketing
Study marketing from the international point of view. Topics include how and where to fine new international customers, evaluating the needs of international customers, and keeping these customers happy while bringing a profit to the company. Also included are the fundamentals of selling, advertising, the effect of cultural differences on selling and advertising procedures, and techniques of closing the sale.3C/30/0

■ Interpreter/Transliterator Sign Language

INTP 1440 Orientation to Interpreting
This course introduces students to the profession of sign language interpreting. It covers the history of interpreting as a field of professional practice, the required professional ethical and performance standards, the impact of legislation on the field, the phenomena of cross cultural dynamics, oppression of minority groups and the role of an interpreter as a cultural mediator. (Prerequisite(s): Acceptance into ITP) 3C/3/0/0

INTP 1465 Special Topics
A variable credit granting course in the area of interpreting/transliterating, American Sign Language, specific sign forms, linguistic skills, Deaf Culture or a related area, which is designed to meet the needs of specific groups of students. Each course is designed and accepted based on a written syllabus outlining the objectives and procedures for delivery. Variable 1–5 credits

INTP 1511 Interpreting Process
This course introduces students to the theory and application of the interpreting process. Application of interpreting process skills occurs through consecutive interpretation. The goal of the course is to develop cognitive processing skills involved in the interpreting process. (Prerequisite(s): Acceptance into the Interpreter Transliterator Program and ASLS 1420 with a grade of "C" or better or taken concurrently with ASLS 1420) 3C/3/0/0

INTP 1512 Consecutive Interpreting 1
This course develops consecutive interpreting skills introduced in INTP 1511 and prepares students for the simultaneous process. Students compare American Sign Language and English semantic/syntactic structures to the consecutive interpreting process. Focus on this course will be on text translation, vocabulary expansion and interpreting process skill development. (Prerequisite(s): Grade of "C" or better in ASLS 1420 and INTP 1511) 3C/2/1/0

INTP 1513 Consecutive Interpreting 2
This course builds upon Consecutive Interpreting skills to prepare students for the simultaneous process. Students will analyze and compare more complex American Sign Language and English texts in order to prepare for the simultaneous interpreting task. (Prerequisite(s): Grade of "C" or better in ASLS 1430 and INTP 1512) 2C/2/0/0

INTP 2411 Sign to Voice Interpreting 1
Focuses on the process of interpretation, provides practice of requisite skills and process tasks and applies skills and theory to the translation process. The course of study focuses on lexical development, syntactical language comparisons, voice production techniques, text/discourse/interpreting process analysis, semantic mapping and diagnostic assessment. (Prerequisite(s): INTP 1513 with a "C" or better) 4C/1/3/0

INTP 2412 Sign to Voice Interpreting 2
Provides students with additional practice in specific skill areas related to sign-to-voice interpretation. Text/discourse/process analysis, lexical and syntactic development, voice production techniques for simultaneous sign-to-voice interpretation will be the focus. Course content is at an intermediate to advanced level of speed and complexity. Students will work primarily from videotaped language models. (Prerequisite(s): INTP 2411 with a grade of "C" or better) 2C/1/1/0

INTP 2421 Voice to Sign Interpreting 1
Provides students techniques for translating the source language English to the target language American Sign Language (ASL) in simultaneous manner. (Prerequisite(s): Grade of "C" or better in INTP 1513) 4C/1/3/0

INTP 2422 Voice to Sign Interpreting 2
This course allows students to continue practicing rendering the target language (ASL) from the source language (English) simultaneously. It also provides preparation for Internship. Continued emphasis and focus is on appropriate uses of lexical and syntactic principles and non-manual behaviors of ASL. (Prerequisite(s): Completion of INTP 2421 with grade of "C" or better) 2C/1/1/0

INTP 2431 Transliterating 1
This course covers the process of Transliteration (changing a message expressed in spoken English into a coded form of the language). The process moves along a continuum from Contact Language to a signed form of English. Specific subtasks are isolated in order to focus on transliterating, skill development, enhancing component skills and incorporating ASL features. These skills are integrated into the performance of beginning to intermediate tasks. (Prerequisite(s): Grade of "C" or better in INTP 1513) 4C/1/3/0

INTP 2432 Transliterating 2
This course expands the process of visually representing English. Students will focus on the expansion and enhancement of transliterating skills at the English end of the ASL-English continuum. Students will incorporate ASL features into intermediate to advanced level texts presented in a simultaneous mode. (Prerequisite(s): Grade of "C" or better in INTP 2431) 2C/1/1/0

INTP 2450 Deaf/Blind Interpreting
Provides students with a working knowledge of the requirements, skills and communication techniques needed to interact and/or interpret with consumers who are Deaf/Blind. (Prerequisite(s): INTP 2411, INTP 2421, INTP 2431) 2C/2/0/0

INTP 2510 Educational Interpreting
This course is an overview of the field of educational interpreting. It covers educational interpreter roles, responsibilities, ethics and techniques. Students will examine language usage, communication processes and case studies. This knowledge will be applied to interpreting for consumers in pre-school through post-secondary settings. (Prerequisite(s): Grade of "C" or better in INTP 1440 and INTP 1511) 2C/2/0/0

INTP 2520 Code of Ethics for Interpreters
This course is designed to provide students with in-depth training on appropriate ethical behaviors and the implications of non-ethical behaviors on consumers and the interpreting profession. Focus will be on application of the RID/NAD Code of Ethics to specific situations in order to enhance and expand ethical decision-making and to prepare for national certification. Students will discuss and apply problem-solving techniques to ethical dilemmas and potential conflict situations. Students will also review the role and function of educational and community interpreters and discuss ethical issues as they pertain to specific settings and populations. (Prerequisite(s): Students must be eligible and enrolled in INTP 2590 or INTP 2591) 1C/1/0/0

INTP 2530 Comprehensives: Written & Performance
This course covers comprehensive performance evaluations in the three skill areas: interpreting, transliterating and sign-to-voice. It also includes a comprehensive written exam to prepare for the written RID Generalist Exam. (Prerequisite(s): INTP 2591) 2C/2/0/0

INTP 2550 Community Resources Seminar
This course introduces students to the agencies, organizations and institutions that serve and/or are run by Deaf, Hard-of-Hearing and Deaf/Blind people throughout Minnesota and Western Wisconsin. Students will familiarize themselves with these resources through research in the community. (Prerequisite(s): Acceptance into ITP) 1C/1/0/0

INTP 2585 Internship Seminar
This course introduces students to the requirements, guidelines, professional practices and types of placements for field experience. Students will discuss protocol, skills, ethics and business practices needed for specific site placements. (Prerequisite(s): Grade of "C" or better in INTP 1513) 1C/1/0/0

INTP 2591 Interpreter Internship
This course applies the coursework, theories, skills and ethics learned during the program to field experience. (Prerequisite(s): Grade of "C" or better in INTP 2411, 2421 and 2431) 6C/0/0/6

■ Machine Tool Technology

MTTP 1411 Introduction to Manufacturing Processes
This course covers a general orientation, an overview of careers, shop safety, measurement, precision tools, band saw theory, lathe theory, drills and vertical milling machines. 2C/0/2/0

MTTP 1413 Interpreting Geometric Dimensioning and Tolerancing
Advanced applications of blueprint reading and geometric dimensioning and tolerancing, including advanced inspection procedures and metallurgy are covered. This course covers the principles, application and interpretation of geometric dimensioning and tolerancing as per ASME-Y14.5M 1994 Standards. (Prerequisite(s): MTTP 1421) 2C/0/2/0

MTTP 1421 Engineering Drawings/CAD
Fundamentals of reading drawings and the use of CAD to produce orthographic, auxiliary and assembly drawings. 4C/0/4/0

MTTP 1424 Shop Calculations and Applications
The subject matter progresses from the arithmetical operations through measurement systems, basic algebra for shop formula solving skills, practical geometry with shop examples and applications and trigonometry, emphasizing its valuable use in the shop and in the trades. 2C/0/2/0

MTTP 1431 Materials Processing
This introductory lab course covers shop safety, bench work, power saws, drills, drill presses, lathe operations, vertical milling and basic surface grinding. 5C/0/5/0

MTTP 1432 Mechanical Applications 1
This course covers intermediate lathe, milling machines and surface grinding operations. Work efficiency and inspection of finished work will be stressed. 5C/0/5/0

MTTP 1433 Mechanical Applications 2
This course covers advanced tool room machining operations using vertical mills, lathes, surface grinders, as well as part inspection. (Prerequisite(s): MTTP 1432) 5C/0/5/0

MTTP 1511 CNC 1
This course covers the basic operation and set up skills using Dynapath 10 and 20 CNC controller. The Dynapath system uses a conversational menu based format. (Prerequisite(s): MTTP 1433) 2C/0/2/0

MTTP 1512 CNC 2
This course covers the set-up and operation of CNC machine tools. Also includes advanced NC/CNC programming and operation on machining and turning centers with an emphasis on Fanuc controls. (Prerequisite(s): MTTP 1511) 2C/0/2/0

MTTP 1513 CNC 3
This course covers the set-up, operation and programming of CNC turning and machining centers. (Prerequisite(s): CNC2 or instructor approval) 2C/0/2/0

MTTP 2410 Computer Aided Manufacturing 1
Covers computer-aided manufacturing using Mastercam software. Students will learn to create geometry, toolpaths and CNC tape files for a series of prints and projects. The use of PC based CAM software to generate numerical control programs is included. The software currently is Mastercam Version 6. 2C/0/2/0

MTTP 2412 Computer Aided Manufacturing 2
This course is a continuation of CAM1. Prints will be handed out and programs created for CNC machine tools. A series of projects will be assigned. 2C/0/2/0

MTTP 2430 Electrical Discharge Machining
This course covers the basic principles of conventional and traveling wire Electrical Discharge Machining in a laboratory setting. Topics included are safety, electrode material, set-up, machine operation, controller operation, amperage, electrode shapes, basic CNC programming, wire information, dielectric applications and work holding methods. (Prerequisite(s): Semester 1,2,3 of the Machine Tool Technology Program) 2C/0/2/0

MTTP 2510 Tool Design 1
Analysis and design fundamentals required to design and build a mold. Content includes types of molds, plastic molding characteristics, metal alloy castings, design principles and molding methods. (Prerequisite(s): MTTP 1421, MTTP 1433, MTTP 1450) 2C/2/0/0

MTTP 2511 Moldmaking/Plastic Technology 1
Introductory course on the design and construction principles of basic molds. Mills, lathes, surface grinders, jig borers, drill presses and injection molding machines are used in a laboratory setting to produce a plastic injection mold. (Prerequisite(s): MTTP 1433, MTTP 1511, MTTP 1512) 3C/0/3/0

MTTP 2512 Manufacturing Applications 1
Product development fundamentals including design and research, cost estimating and manufacturing of a metal stamped product. (Prerequisite(s): MTTP 2520) 3C/0/3/0

MTTP 2513 Moldmaking/Plastic Technology 2
Advanced level study that covers the design and machining operations required to build a plastic injection mold. Lathes, mills, surface grinders, EDM, CNC programming and heat treat equipment are used. (Prerequisite(s): MTTP 2512) 3C/0/3/0

MTTP 2514 Manufacturing Applications 2
Advanced level course utilizing 2-axis CNC machining and programming in the development of tooling fixtures and precision manufacturing processes. (Prerequisite(s): MTTP 2512). 3C/0/3/0

MTTP 2515 Rapid Prototyping
Applications course using the principles of tool design, CAD, CAM, CNC and EDM in the development of a thermoplastic prototype part produced with the injection molding process. (Prerequisite(s): MTTP 2511) 3C/0/3/0

MTTP 2516 Manufacturing Capstone Project
Course focus on manufacturing design and production. Project includes design proposal, product design and documentation of necessary manufacturing processes necessary to produce and deliver desired product. (Prerequisite(s): MTTP 2514) 3C/0/3/0

MTTP 2517 Product Design 1
This course covers basic product design using solid modeling software. Students will design a basic production tool. (Prerequisite(s): MTTP 1421 and MTTP 2513) 2C/0/2/0

MTTP 2518 Product Design 2
This course continues product design using solid modeling software. Students will design a product and the matching production tool. Included with the design, the students will order necessary raw materials and tool components. (Prerequisite(s): MTTP 2517) 2C/0/2/0

MTTP 2520 Tool Design 2
Analysis of the processes required to design and manufacture a production metal stamping die. Types of dies, steel types, clearance and tonnage requirements are also covered. Actual tools will be designed. (Prerequisite(s): MTTP 1421, MTTP 2410) 2C/0/2/0

MTTP 2530 Fixture Design
Introduces production machining processes and includes calculations and methods for work holding set-ups of various piece parts. (Prerequisite(s): MTTP 1450) 2C/0/2/0

MTTP 2545 CNC Swiss Automatics 1
This introductory course covers advanced CNC Swiss style screw machine turning theory and operation. Topics included are safety, machine components, special tooling, programming techniques, set-ups, offsets and machine operation. (Prerequisite(s): Machine Tool Operator Certificate or Diploma or approved industry experience) 3C/0/3/0

MTTP 2546 CNC Swiss Automatics 2
This advanced course covers complex, production manufacturing of medical device products. Topics included are safety, G&M code programming, tool set-up, tool geometry, live tooling and production machining methods. (Prerequisite(s): MTTP 2445, Machine Tool Operator Certificate or Diploma or approved industry experience) 3C/0/3/0

MTTP 2550 Basic Medical EDM
Course covers basic wire Electrical Discharge Machining (EDM) theory and operation. Topics included are safety precautions, machine components, basic CNC programming, wire information, amperage, dialectric applications and work holding methods used in the mechanical device industry. (Prerequisite(s): Machine Tool Operator Certificate or Diploma or approved industry experience) 2C/0/2/0

Course Descriptions

MTTP 2551 Advanced Medical EDM
Course covers the principles of conventional and CNC Sink Electrical Discharge Machining (EDM). Topics included are safety, electrode manufacturing, set-up, power supply, programming, maintenance and operation. (Prerequisite(s): MTTP 2550, Machine Tool Operator Certificate or Diploma or approved industry experience) 2C/0/2/0

MTTP 2576 Advanced CAM
This course covers computer-aided manufacturing using MasterCam version 7.2 software. Geometry will be created in MasterCam, including 3D surfaces. Toolpaths will be generated from the geometry, NC code files will be generated and selected projects will be cut in a machine tool. Importing external CAD drawings will also be addressed from MTTP 2573. (Prerequisite(s): MTTP 2573 or equivalent, MTTP 2410 or equivalent, MTTP 1512 or equivalent) 3C/3/0/0

MTTP 2579 Advanced CNC
This course covers computer numerical control programming and operation of computer numerical controlled machine tools. Lathe and mill programming and operation will be covered. The Fanuc OM control will be used on both types of machine tool. The student will learn longhand G and M code programming techniques, program entry, editing and execution. There will be projects assigned to be machined. (Prerequisite(s): MTTP 1512 or equivalent) 3C/3/0/0

MTTP 2591 Machine Tool Technology Internship
Provides an industry on-site opportunity for students to gain skills through experiences and practices in an actual work environment. (Prerequisite(s): Instructor approval) Variable 1–6 credits

■ Massage Therapy

MASS 1400 Introduction to Therapeutic Massage
This course will enable the student to track the history and development of massage therapy, understand the scope of practice, body mechanics for the practitioner, contraindications for therapy and professional ethics for practitioners. Students will review massage-specific anatomy and physiology with emphasis on muscle identification, actions and insertions on the skeleton. Students will be introduced to basic massage techniques through demonstration and practice. Students will practice correct table set-up and sanitation. (Prerequisite(s): Concurrent enrollment in or previous completion of HLTH 1410 or HLTH 1420) 4C/2/2/0

MASS 1410 Therapeutic Massage Business Practices
In this course, students will be introduced to different types of businesses in the massage therapy industry and basic aspects of a business plan. Topics include scope of practice, certifications, legal requirements, equipment options, charting and insurance billing. Principles of professional ethics and interactions with clients are integrated throughout the course. (Prerequisite(s): Declared Massage Therapy major) 3C/2/1/0

MASS 1421 Massage Spa Techniques
This course provides application of massage techniques using knowledge of the musculoskeletal system. Students will refine previously learned techniques and body mechanics. Deep tissue massage will be introduced. Students will demonstrate Swedish and deep-tissue techniques. Students will demonstrate

knowledge of contraindications for massage therapy based on client in-take information. (Prerequisite(s): MASS 1400) 2C/0/2/0

MASS 1422 Massage Clinical Techniques
Students will refine previously learned techniques in Swedish massage and deep-tissue massage by demonstrating mastery of massage therapy contraindications, body mechanics, muscle actions and insertions. Students will learn stretches for both client and self-care. Advanced techniques in chair massage, reflexology, myofascial release, lymph drainage and neuromuscular therapy will be introduced. (Prerequisite(s): MASS 1421 or concurrent enrollment) 4C/2/2/0

MASS 1423 Massage Advanced Clinical Techniques
Students will refine previously learned techniques. Students will investigate various treatment protocols utilizing scientifically proven, outcome-based techniques including Neuromuscular Therapy, Manual Lymphatic Drainage, Myofascial Release, Travel Trigger Point Therapy, Muscle Energy Technique, Proprioceptive Neuromuscular Facilitated Stretching, Active Isolative Stretching and Positional Release Technique. Students will learn to perform thorough patient assessments utilizing medical histories and objective findings through palpation, functional muscle testing, range of motion testing, postural examination and gait examination. Students will learn to create a care-plan based on evaluations; create treatment plans using carefully selected techniques for the given pathology; and learn to recommend exercises to the patient. Students will learn to give supplementary care as prescribed by a licensed Physician, Chiropractor or Physical Therapist for pathologies including multiple sclerosis, spinal cord injury, traumatic brain injury, stroke, diabetes, AIDS, cancer, burns, post-surgical scarring, chronic pain and fibromyalgia. (Prerequisite(s): Certificate in Massage Therapy or equivalent as evaluated by faculty) 5C/2/3/0

MASS 1480 Massage Therapy Practicum
This course meets the requirement of the performance and documentation of the minimum 50 full-body sessions. Students will demonstrate and apply all previously learned techniques including use of client intake information, knowledge of massage therapy contraindications and skills in charting for each client. (Prerequisite(s): MASS 1422 or concurrent enrollment) 4C/0/4/0

MASS 1490 Clinical Massage Internship
Students will refine all previously learned techniques and put them into practice. Students are placed in a traditional clinical setting at Chiropractic offices, Medical Sport Institutes and Physical Therapy clinics for half of the internship. For the second half students may choose to focus on an area of choice such as oncology, pre and post natal, geriatric, AIDS, infant massage, or orthopedic settings. (Prerequisite(s): Completion of entire clinical massage curriculum and professional membership with ABMP including liability insurance. Students must have current CPR and liability insurance on file at Saint Paul College before starting internship.) 5C/1/4/0

■ Mathematics

MATH 0741 Math Fundamentals 1
This developmental course is designed for students who need to learn the basic principles of mathematics. Topics include whole numbers, fractions, decimals, percents, applications of percent, graphs and simple statistical measures. (Placement into this course will be according to college assessment score.) 3C/2/1/0

MATH 0742 Math Fundamentals 2
This course is a continuation of MATH 0741. Topics include whole numbers, fractions, decimals, percents, applications of percents, plane geometry, solid figures, graphs and simple statistical measures. (Placement into this course will be according to college assessment score or completion of MATH 0741 with a grade of "C" or better.) 3C/2/1/0

MATH 0750 Developmental Algebra
This course is for students who have never had algebra, or who need to brush up on their algebra skills before taking MATH 1510. Topics include whole numbers, real numbers, polynomials and equations.(Placement into this course will be according to college assessment score or completion of MATH 0742 with a grade of "C" or better.) 3C/3/0/0

MATH 1411 Applied Mathematics
This course is required for students in certain trade programs. This course is designed to help students develop the numerical skills needed to perform tasks in their trade. Topics in this course include whole numbers, fractions, decimals, percents, ratios and proportions, plane geometry, word problems relevant to the trades, use of the TI-36 calculator (or equivalent) and the metric system. (Placement into this course will be according to college assessment score or completion of MATH 0742 with a grade of "C" or better.) 3C/2/1/0

MATH 1420 Trade Algebra and Trigonometry
This course is intended for the student who needs to master the fundamentals of algebra and right triangle trigonometry as they apply to the construction trades. The content of this course includes a review of basic math, simplifying expressions involving constants and variables, solving algebraic equations, solving literal problems using spreadsheets and graphing calculators and solving construction trade problems with algebra and right triangle trigonometry. (Placement into this course will be according to college assessment score or completion of MATH 0742 with a grade of "C" or better.) 3C/3/0/0

MATH 1510 Introductory Algebra
Intended for the student who needs to master the fundamentals of algebra. The content includes: Review of fractions, decimals and percent properties of the Real Number System; solving equations and inequalities; exponents; polynomial operations; basic factoring; simplifying rational expressions; graphing linear equations; solutions of linear systems; roots and radicals; and solutions of quadratic equations. (Prerequisite(s): Grade of "C" or better in MATH 0742, or appropriate assessment score) 3C/3/0/0

MATH 1520 Intermediate Algebra
Designed for those students who have had one year of high school algebra and need a refresher before taking courses such as College Algebra and/or Pre-Calculus. The topics include: real number properties, first degree equations, graphs and functions, linear systems, polynomials, rational expressions and exponents and radicals. (Prerequisite(s): Grade of "C" or better in MATH 1510, or appropriate assessment score) 3C/3/0/0

MATH 1710 Liberal Arts Mathematics
This class includes selected topics from the mathematics of social choice, growth and symmetry, and probability and statistics. Real-life applications are used to illustrate mathematical concepts. Modern discoveries as well as classic problems are described using straightforward examples. A fundamental objective is to develop an appreciation for the aesthetic elements of mathematics. The development of critical

thinking skills through the application of mathematics is also emphasized. This course is designed for students who are not planning to take any further mathematics courses. This course can be used to satisfy the general education requirement for math. (Prerequisite(s): MATH 1510 Introductory Algebra with a grade of "C" or better or appropriate assessment score) (MnTC: Goal 4) 3C/3/0/0

MATH 1730 College Algebra
This course covers algebraic functions and their applications. Topics include linear and quadratic functions, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, matrix algebra, discrete algebra, the binomial theorem and probability. Graphing calculators are used to further the student's understanding of essential mathematical concepts. (Prerequisite(s): MATH 1520 with a grade of "C" or better, or appropriate assessment score) (MnTC: Goals 2 & 4) 3C/3/0/0

MATH 1740 Introduction to Statistics
This course covers concepts and applications of descriptive and inferential statistics. Measures of central tendency and variance, confidence intervals, normal distributions and central limit theorem are explored. The student learns about probability distributions and random variables. Techniques of estimation, hypothesis testing, z-scores, t-tests, F-tests, Chi-square tests, analysis of variance (ANOVA) and linear regression are covered in this course. This course can be used to fulfill the general education requirement for math, and transfer to 2 and 4 year institutions. (Prerequisite(s): MATH 1520 with a grade of "C" or better or appropriate assessment score) (MnTC: Goal 4) 4C/4/0/0

MATH 1760 Pre-Calculus
The course introduces algebraic and trigonometric functions and their applications. Topics include polynomial, rational, exponential and logarithmic functions. Systems of equations and inequalities, matrices, determinants and analytic geometry will also be explored. In addition, this course covers trigonometric functions, identities and equations and the laws of sines and cosines. (Prerequisite(s): MATH 1520 Intermediate Algebra with a grade of "C" or better, or MATH 1730 College Algebra with a grade of "C" or better, or appropriate assessment score) (MnTC: Goal 4) 4C/4/0/0

MATH 2751 Calculus 1
This course is a beginning calculus course, which introduces the concepts of limits, derivative, differentiation and integration of functions with emphasis on applications. Topics include introduction to the derivatives and limits, tangent to a curve, properties of limits, derivative of a real function, the power rule and the algebra of derivatives, the chain rules, the mean value theorem, applications of differentiation including max-min problems and related rate problems, anti-derivatives and the definite integral. Graphing calculators are used to further the student's understanding of essential concepts. (Prerequisite(s): MATH 1760 Pre-Calculus with a grade of "C" or better, or appropriate assessment score) (MnTC: Goal 4) 5C/5/0/0

MATH 2752 Calculus 2
This course is a continuation of MATH 2751 Calculus 1 and the continued development of the properties and applications of integration. Topics include applications of integral, transcendental functions, techniques of integration, L'Hopital's rule, sequences and series and parametric equations and polar coordinates. A graphing calculator is required. (Prerequisite(s): A grade of "C" or better in MATH 2751) (MnTC: Goal 4) 5C/5/0/0

◼ Medical Laboratory Technician

MDLT 1400 Orientation
This course is designed to introduce students to the field of medical laboratory science and the role of the Medical Laboratory Technician in healthcare. Students will review the program policies and expectations. The history, organization structure, educational requirements, ethics and training levels of laboratory personnel are discussed. Laboratory methods and techniques will be discussed. 1C/1/0/0

MDLT 1410 Laboratory Techniques
Basic skills and techniques will be explained and performed including basic instrumentation. Major topics covered are: Safety and Universal Precautions, Laboratory Glassware and Pipets, Microscopy, Balances and Weighing, Specimen collection and processing, Spectrophotometry, Metric/Chemistry Math and Solutions. (Prerequisite(s): CHEM 1711 or concurrent enrollment) 3C/2/1/0

MDLT 1421 Hematology 1
This course covers basic hematology procedures involving manual methods of cell counting and hemoglobin analysis. Emphasis is placed on hematopoiesis theory, normal blood cell structure and appearance and techniques. (Prerequisite(s): MDLT 1410) 2C/1/1/0

MDLT 1422 Hematology 2
This course is a continuation of Hematology 1 and includes instrumentation, cell differentiation, correlation of laboratory findings and quality control. Diseases and special hematology procedures and stains are correlated. Coagulation theory and laboratory procedures are covered in the course. (Prerequisite(s): MDLT 1421) 4C/1/3/0

MDLT 1430 Urinalysis/Body Fluids
This course covers basic urinalysis procedures used in the clinical laboratories in the examination of a patient's urine. It includes theory in urine formation, renal physiology and the role of the kidney in health and disease. Students will be introduced to the analysis of other body fluids used in the clinical laboratory. (Prerequisite(s): CHEM 1711 or concurrent enrollment and a grade of "C" or better in MDLT 1410) 3C/2/1/0

MDLT 1441 Clinical Chemistry 1
This course covers the analysis of various chemical constituents of plasma, serum, urine and cerebrospinal fluid. The physiology, methodology and clinical significance of carbohydrate metabolism, non-protein nitrogen, bilirubin metabolism, renal function and liver function is addressed. Lab techniques, concepts of photometry, pipetting and safety will be reviewed and emphasized. Quality assurance, quality control procedures and manual laboratory techniques will be presented and practiced. (Prerequisite(s): CHEM 1711 or concurrent enrollment and MDLT 1410) 2C/1/1/0

MDLT 1442 Clinical Chemistry 2
This course covers the theory and clinical correlations of proteins, enzymes, electrolytes, lipids, acid/base balance, therapeutic drug monitoring, endocrinology and toxicology. Students learn techniques of procedures, quality control and normal values of chemical constituents analyzed. Concepts that are basic to the operation of automated laboratory instruments will be taught and automated instruments will be used. Some manual techniques will be presented and practiced. (Prerequisite(s): HLTH 1410, CHEM 1712 or concurrent enrollment and a grade of "C" or better in MDLT 1441) 4C/1/3/0

MDLT 1446 Phlebotomy
This course provides beginning instruction in blood specimen collection skills and procedures. The course addresses safety, legal issues, customer service, the circulatory system, equipment, venipuncture, skin puncture and specimen transport/processing. (Prerequisite(s): MDLT 1410) 1C/1/0/0

MDLT 1451 Learning Lab 1
This course reinforces the basic skills required for gaining proficiency in performing medical laboratory techniques in hematology and basic skills. The student will participate in laboratory activities with more direct instructor contact. Students will be encouraged and recommended to enroll for more help during the laboratory sessions and review of current subject material. No new material will be introduced in this course. (Optional Elective) (Prerequisite(s): Concurrent enrollment in MDLT 1410 and MDLT 1421) 1C/0/1/0

MDLT 1452 Learning Lab 2
This course reinforces the basic skills required for gaining proficiency in performing medical laboratory techniques in clinical chemistry, urinalysis and blood specimen collection. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. (Prerequisite(s): Concurrent enrollment in MDLT 1441, MDLT 1430 and MDLT 1446) 1C/0/1/0

MDLT 1453 Learning Lab 3
The course reinforces the basic skills required for gaining proficiency in performing medical laboratory techniques in hematology, immunology and phlebotomy. The student will participate in laboratory activities with more direct instructor contact. Students will be encouraged and recommended to enroll for more help during the laboratory sessions and review of current subject material. No new material will be introduced in this course. (Optional Elective) (Prerequisite(s): Concurrent enrollment in MDLT 1422 and MDLT 1510) 1C/0/1/0

MDLT 1454 Learning Lab 4
This course reinforces the basic skills required for attaining proficiency in performing medical laboratory techniques in phlebotomy and clinical chemistry. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. (Prerequisite(s): Concurrent enrollment in MDLT 1442) 1C/0/1/0

MDLT 1510 Immunology
Covers basic theory in immunology, non-specific immunity and serological procedures. The reactions of antibodies and antigens are studied and performed in the laboratory. Laboratory procedures are designed to instruct the student in basic serology procedures such as serial dilutions, the use of commercial kits and interpretation of results. (Prerequisite(s): Grade of "C" or better in MDLT 1410) 2C/1/1/0

MDLT 2400 Mycology/Parasitology
Covers parasites and fungi of medical importance. An emphasis is placed on identification of diagnostic stages and knowledge of specimen collection, handling, processing and identification techniques. (Prerequisite(s): BIOL 1750 or concurrent enrollment and a grade of "C" or better in MDLT 1410) 2C/1/1/0

MDLT 2410 Immunohematology

This course covers the introduction to both the theoretical and practical aspects of Immunohematology. Areas of study include blood typing, antibody screening and identification, cross matching, donor selection and blood component usage. The course is designed to prepare the student for practical training in Immunohematology. Additional training will be needed if the student wishes to develop expertise in the field. (Prerequisite(s): Grade of "C" or better in MDLT 1510) 3C/1/2/0

MDLT 2420 Clinical Microbiology

Covers the isolation and identification of clinically significant microorganisms. Emphasis is placed on specimen sources, growth characteristics and techniques for identification, safety and quality assurance. (Prerequisite(s): BIOL 1750 and a grade of "C" or better in MDLT 1410) 4C/1/3/0

MDLT 2430 Clinical Practice Orientation

This course explains the clinical laboratory structure and the role of the MDLT student during the practicum phase of the program. Students review theoretical concepts and procedures of testing performed in various clinical laboratory departments. Clinical practice policies and expectations are addressed. (Prerequisite(s): Grade of "C" or better in all coursework required through the first year including summer term) 1C/1/0/0

MDLT 2455 Learning Lab 5

This course reinforces the basic skills required for attaining proficiency in performing medical laboratory procedures in phlebotomy and immunohematology. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. (Prerequisite(s): MDLT 1446 and MDLT 2410) 1C/0/1/0

MDLT 2456 Learning Lab 6

The course reinforces the basic skills for gaining proficiency in performing medical laboratory techniques in phlebotomy, microbiology, mycology and parasitology. The student is encouraged and recommended to enroll for more help during the laboratory sessions and review of current subject material. No new material will be introduced in this course. (Prerequisite(s): MDLT 2420 and MDLT 2400 or concurrent enrollment) 1C/0/1/0

MDLT 2591 Clinical Practice

In this clinical laboratory course, the student works under supervision in a hospital/clinic laboratory. The experience allows the student to apply knowledge learned in the didactic phase in an employment-like setting. Students rotate through hematology, chemistry, urinalysis, microbiology, immunohematology, immunology and coagulation departments. In addition, students perform routine specimen collection and processing procedures. (Prerequisite(s): Grade of "C" or better in all MDLT program requirements) Variable 1–9 credits 0/0/1-9

MDLT 2593 Comprehensive Examinations

Students will be evaluated by comprehensive examinations on their knowledge of theory and practical applications. Evaluation is exercised in all department areas of the clinical laboratory. (Prerequisite(s): Grade of "C" or better in all required courses in the Medical Laboratory AAS degree including general education courses) 1C/0/1/0

■ Medical Office Careers

MEDS 1420 Health Information Foundations

This course will help the student understand health information theory a the basic level with a major emphasis on skill building to perform day-to-day operational tasks in health information management. Through development from the specific to the global, the intended audience, who will likely not have a previous background in health information management, will be able to grasp key theories from implementation to current practices. After obtaining the base knowledge and skills from this class, the student will be able to use, analyze, present, abstract, code, store and/or retrieve healthcare data for the support of healthcare related organizations. 3C/3/0/0

MEDS 1470 Anatomy & Physiology/Medical Office

This course provides the student with an understanding of anatomy and physiology of all systems of the human body. Common disease conditions of each body system will be highlighted. This course provides the student with a fundamental knowledge base for work in the medical office careers field. 3C/3/0/0

MEDS 1480 Medical Terminology

This course exposes the student to the language of healthcare known as medical terminology. The student will develop an understanding of medical terminology by studying the pronunciation and definition of word parts as well as the proper format in bringing word parts together to form medical terms. Development of this foundation is designed to provide a medical vocabulary for future healthcare staff. 3C/3/0/0

MEDS 1551 Medical Formatting/Transcription 1

Covers formatting and transcription of a variety of medical documents. Emphasis will be on authentic forms and material; formatting; spelling; building speed and accuracy; and proofreading and correcting errors. (Prerequisite(s): MEDS 1480 or concurrent enrollment) 3C/2/1/0

MEDS 1552 Medical Transcription 2

A continuation of MEDS 1551. A variety of dictated medical material will be produced using electronic equipment. Emphasis will be on authentic forms and material, building speed and accuracy, advanced editing, proofreading and correcting errors. (Prerequisite(s): MEDS 1551) 3C/2/1/0

MEDS 1553 Medical Transcription 3

Advanced course that continues the development of medical transcription skills using word processing equipment to produce a variety of usable medical documents. Emphasis will be on authentic material, building speed and accuracy, advanced editing, proofreading and correcting errors. Material will be from physicians from various ethnic backgrounds and will cover various medical specialty areas. (Prerequisite(s): MEDS 1552) 3C/2/1/0

MEDS 1560 Computerized Health Information

An introduction to the concepts of computer technology associated with healthcare and the tools and techniques for collecting, storing and retrieving health care data. This course will explain the difference between data and information as well as discuss networks, data integrity and security, document imaging and automatic identification. Health information systems including administrative, patient registration, ADT, HIM applications, clinical, point of care, lab, radiology, pharmacy and voice recognition, will also be discussed. 3C/3/0/0

MEDS 1562 Billing and Reimbursement

An introduction to the reimbursement systems used in the healthcare industry, including inpatient and outpatient settings. Medical claim forms preparation and processing will be covered. 2C/2/0/0

MEDS 1570 Human Disease

This course will assist the student in understanding both infectious and noninfectious diseases by utilizing a systemic approach. This course will examine the cause of disease, risk factors, symptoms, prevention, control and treatment. Emphasis on health information career objectives, daily operational tasks and coding practices will be implemented throughout the course of study. The knowledge obtained will allow the student to process information and work more efficiently in a health information environment. 3C/3/0/0

MEDS 2420 Medical Office Procedures

This course introduces the student to all procedures performed within a medical records department. Topics of discussion will include medical record creation and retention, medical filing, telephone procedures and scheduling, written communications, proper handling of mail, transcription guidelines, legal aspects of the medical record, insurance and coding, billing reimbursement and collections, recording minutes, meeting arrangement and preparation plus other duties related to the medical office. 4C/4/0/0

MEDS 2430 Pharmacology for Health Information Technology (HIT)

This course will introduce the subject of drugs, their uses and pharmacology information sources. Pharmacology includes the study of drugs and their relationship to specific body systems as well as side effects, precautions, drug interactions and patient education. This course will provide a thorough understanding of drugs which is required for the health information practitioner to properly analyze, abstract, understand and code health data. 2C/2/0/0

MEDS 2432 Alternative Health Record Systems

This course focuses on managing health information in health care facilities other than acute care hospitals. An introduction to the basic components of the content, use and structure of health care data and data sets and how these components link to primary and secondary record systems. Topics to be discussed include the content of the health record, documentation requirements, health care data sets, registries and indices, forms and screen design and primary versus secondary records. An explanation of the organization, financing and delivery of healthcare services will be discussed, as well as a discussion of such topics as accreditation standards and licensure and regulatory agencies. 2C/2/0/0

MEDS 2434 Legal Aspects of Health Information

An introduction to the legal and ethical issues that are relevant to health information. The court system and legislative process, as well as legal vocabulary will be communicated. Topics to be discussed include confidentiality, release of information, retention guidelines, patient rights and advocacy, advanced directives, and ethics. The new HIPAA guidelines will also be reviewed. 2C/2/0/0

MEDS 2440 Supervision of Health Information

An introduction to the principles of supervision and organization in order to develop effective skills in leadership, motivation and team building approaches. Topics will include basic management principles, human resource supervision, budgeting basics, ergonomics, how to market HIM services and performance or quality improvement. 2C/2/0/0

MEDS 2460 ICD-9-CM Coding

This course teaches the student to accurately code diagnoses and procedures using the ICD-9-CM coding system. This class brings the student through all of the coding conventions in order to develop a basic coding foundation. Coding of diagnoses and procedures from each body system will be covered as well as coding from operative reports and other healthcare documents. Emphasis on Principle Diagnosis and Principle procedure as well as secondary diagnoses and secondary procedures is also covered. Other topics include DRG's, compliance, over-coding and under-coding, complications and comorbidities. (Prerequisite(s): MEDS 1470 and MEDS 1480) 3C/2/1/0

MEDS 2470 CPT-4 Coding

This course teaches the student to accurately code procedures using the CPT-4 coding system. This class brings the student through all of the coding conventions in order to develop a basic coding foundation. Coding of procedures from each body system will be covered as well as coding from operative reports, emergency room reports, physician office reports and other healthcare documents. Students will also be trained in coding from all sections within the CPT-4 system as well as Evaluation and Management coding and HCPCS Level 2- National coding. (Prerequisite(s): MEDS 1470 and MEDS 1480) 3C/2/1/0

MEDS 2480 Advanced Coding

In this course, students will use their basic ICD-9-CM and CPT-4 coding skills while learning to correctly code Diagnoses and Procedures from a multitude of source documents such as Inpatient Records; Ambulatory Surgery Records; Emergency Room Reports; Physician Office Cases and Ancillary Service Reports. Students will also become familiar with Diagnosis Related Groups and Ambulatory Payment Classifications. Through instruction in coding these cases, the students will become familiar with what will be expected of them in a real coding position in a healthcare organization. (Prerequisite(s): MEDS 2460 and MEDS 2470) 3C/2/1/0

MEDS 2510 Quality Management and Health Statistics

This course is an introduction to the principles of the quality assessment process which encompasses a framework for gaining skills in collecting and analyzing data. This course covers quality assessment and improvement including collection tools, data analysis and reporting techniques. Utilization management, risk management and case management will also be discussed. This course is also a study of the effective use, collection, arrangement, presentation and verification of health care data. Vital statistics, healthcare statistics and descriptive statistics, as well as reliability and validity of data will be discussed. Research techniques and the IRB process will also be covered. 3C/3/0/0

MEDS 2590 HIT Internship

In this course, students apply the coursework, theories, skills and ethics learned during the program to a field-based experience. Under the supervision of a qualified health information professional, the student will gain professional practice experience in a health care facility. Students will meet written goals and objectives and be evaluated by the Health Information Supervisor and the College Internship Coordinator. 3C/0/0/3

■ Music

MUSC 1740 Music Appreciation
A study of classical music from 1450 to the 20th Century. Developed for students interested in increasing their awareness and understanding of music. (MnTC: Goals 6 & 8) 3C/3/0/0

MUSC 1750 Jazz History
This introductory course is designed to help students become familiar with and appreciate jazz as an important American art form. The course follows the historical development of jazz style and innovations to Post-Modern developments and integration with other musical forms. Attendance at a live performance is required. (MnTC: Goals 6 & 7) 3C/3/0/0

■ Natural Sciences

NSCI 1710 Earth Science
This course introduces students to topics in geology, oceanography, meteorology and astronomy. The solid earth, the liquid hydrosphere and the gaseous atmosphere are studied. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1720 Physical Geology
This course introduces students to rocks and minerals, geologic time and the processes of global tectonics as related to the changing landscape. Field simulations and exercises provide students with the framework for rock and mineral identification, mapping and model interpretations. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1730 Introduction to Oceanography
This course introduces students to basic scientific principles of oceanography. Topics include the historical, geological, biological, chemical and physical oceanography. Contemporary issues related to marine pollution, resources and related areas will also be studied. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1740 Introduction to Meteorology
This course introduces students to basic scientific principles of meteorology. Topics include basic properties of the atmosphere, weather instruments, weather phenomena, terminology and forecasting. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1750 Natural Disasters
This course introduces students to the investigation of the physical processes, origins and the human and economic impacts caused by natural disasters. The course covers earthquakes, volcanoes, severe weather, climate change, wildfires, floods and other catastrophic phenomenon. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1760 Descriptive Astronomy
This course introduces students to astronomy. It includes the observation of the planets and stars using reflecting and refracting telescopes. The earth and its motion, sun, moon, solar system, stars and the galaxies will also be studied. (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1770 Introduction to Energy and the Environment
This course introduces students to energy production, supply, efficiency and the projections of future needs. The potential of solar, biomass, photovoltaics, wind and other continuous flow sources are covered. Crude oil, natural gas, coal and nuclear sources of energy are studied. Environmental, political, economic and ethical considerations are reviewed. (MnTC: Goals 3 & 10) 3C/3/0/0

■ Painting and Decorating

PDEC 1405 Small Hand Tools
Course covers tools and equipment used by painters. These skills include but not limited to: drive and remove nails, glue and clamp, drive screws, cut metal, layout and drill holes, razor scrapper, portable disc sander, and belt sander. 3C/2/1/0

PDEC 1425 Finishing
Students will learn blueprint reading, preparation and application procedures, use of ladders and scaffolds, paint materials, and basic solvents and thinners. 4C/2/2/0

PDEC 1480 Spray Painting
Students will use airless and conventional spraying as well as advanced spraying. They will be able to use the compressor system, power washer, respirator, HVLP spray equipment and identify and use spray tips. 3C/1/2/0

PDEC 1500 Refinishing
Students will learn wood finishing and color mixing and matching. They will demonstrate safety rules for handling varnishes, usage of stain, color filler, recognize varnish defects, apply polyurethane, wax, and shellac. 4C/2/2/0

PDEC 1515 Wall Covering
Students will estimate wall covering, prepare walls for papering, set up paste table, prepare for hanging wall coverings, hang paper around openings, and hang ceiling paper. 3C/1/2/0

PDEC 1590 Employability
Students will learn to complete applications, write a cover letter, prepare a resume, and documentation. Participate in a mock job interview, prepare career portfolio. 1C/1/0/0

■ Philosophy

PHIL 1700 Introduction to Philosophy
The purpose of this course is to engage the student in a number of central topics in philosophy through the examination and analysis of the writings of contemporary and major Western philosophers as well as through the close study of several fundamental issues which have arisen in the course of the development of the Western philosophical tradition. Topics of study include the nature of human knowledge; perception and illusion; the nature of consciousness; personal identity; minds, brains and machines; freedom and determinism; justice and the meaning of life. The course will be conducted in a seminar/symposium format supplemented by lectures and student participation. (MnTC: Goal 6) 3C/3/0/0

PHIL 1710 Logic
Logic is the study of arguments. In this course the student will be introduced to the principles of logic and will be able to use these principles in evaluating verbal and written communication. Students will learn both about formal logic, which includes syllogisms and truth-functional logic, as well as informal logic, which includes fallacies and looking at arguments in context. Although this course falls within the goal of mathematics, it may not apply to certain technical programs or meet certain transfer requirements for mathematics. (MnTC: Goal 4) 3C/3/0/0

Course Descriptions

PHIL 1720 Ethics

The purpose of this course is to acquaint the student with the rich and varied tradition of ethical thought found in Western Civilization. Its historical focus will provide a background for perennial ethical themes. Students will examine a variety of theoretical frameworks through which to approach moral issues and will practice using the principles of each to make judgments about issues. The course will be conducted in a seminar/symposium format supplemented by lectures and student participation. Students are expected to develop a philosophical perspective on moral questions as evidenced in the ability to relate the positions of various ethical philosophers to contemporary issues both in written work and in classroom discussion. (MnTC: Goals 6 & 9) 3C/3/0/0

PHIL 1750 Eastern Philosophy

The purpose of this course is to acquaint the student with the major Asian philosophies. Students will engage in study of the history and ideas of the following schools of thought: Hinduism, Taoism, Confucianism and Buddhism. This will include examination and analysis of selections from works such as the Upanishads, the Tao te Ching, the Analects of Confucius and the writings of the Dalai Lama. Topics of study will include the nature of reality and being, social philosophy and ways of attaining knowledge. We will compare the ideas of Eastern philosophers on certain fundamental issues with the conclusions of various Western philosophies. The course will be conducted in a seminar/symposium format supplemented by instructor lectures and student participation. (MnTC: Goals 6 & 8) 3C/3/0/0

PHIL 1760 World Religions

An introduction to major world religions in India, China, Japan, the Middle East and indigenous religions from around the world. The course will focus on the scriptures, formative periods and historical development of these great religions. It will also include ways fundamental religious questions are answered and critique of religion from a secular perspective. (MnTC: Goals 6 & 8) 3C/3/0/0

■ Physics

PHYS 1720 Introductory Physics

This course introduces students to fundamental principles of physics and their application to familiar phenomena. Topics include motion, fluids, heat, electricity, magnetism, light and optics, waves and sound, quantum phenomena and relativity. The topics will be related to modern technology and every-day phenomena. The course is intended for students who have not had a high school physics course. Lecture and Laboratory. (Prerequisite(s): MATH 1730 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

PHYS 2700 General Physics 1 (with Calculus)

Calculus based course with a study of Kinematics, Dynamics, Laws of Motion, Gravitation, Kinetic and Potential Energy; Conservation of Energy; Linear and Angular momentum; Equilibrium and Thermodynamics. Designed to fulfill physics requirements for students pursuing the study of physics, chemistry, pre-engineering, mathematics or computer science. (Prerequisite(s): MATH 2751 Calculus 1 with a grade of "C" or better) (MnTC: Goal 3) 5C/2/3/0

PHYS 2710 General Physics 2 (with Calculus)

Continuation of General Physics 1 (with Calculus). Topics include: Wave Phenomenon, Fluids, Electricity and Magnetism; electrical circuits, light and optics and modern physics. Designed to fulfill physics requirements for students pursuing the study of physics, chemistry, pre-engineering, mathematics or computer science. (Prerequisite(s): PHYS 2700 General Physics 1 with a grade of "C" or better) (MnTC: Goal 3) 5C/2/3/0

■ Pipefitting

PIPE 1410 Pipe Science/Math

Study of selected branches of physics and math applied to pipefitting. Areas covered include properties of matter, heat, math and mechanics. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 5C/2/3/0

PIPE 1420 Pipe Blueprint Reading

Study of basic drafting principles as they relate to piping drawing and blueprints. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 3C/1/2/0

PIPE 1430 Pipe Welding 1

Basic course in oxyacetylene welding and cutting of pipe. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 5C/1/4/0

PIPE 1441 Basic Heating 1

Introductory course on low pressure steam. Areas include boiler, piping and heat transfer units. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 3C/1/2/0

PIPE 1442 Basic Heating 2

This course is a basic study of hydronic heating systems. Areas include systems, piping layout and figuring heat loss. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 3C/1/2/0

PIPE 1445 Apprentice Pipefitting Theory

Introductory course on pipefitting apprenticeship programs. Areas include heating, cooling and piping procedures. (Prerequisite(s): Must be enrolled in Pipefitting apprenticeship program.) 2C/0/2/0

PIPE 1451 Pipe Shop 1

Care and use of tools and equipment and uses of different types of pipe fittings, hangers and the assembly of pipe and fittings are covered. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 4C/0/4/0

PIPE 1452 Pipe Shop 2

Course consists of tube bending, flaring, soldering, brazing and rigging. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 4C/0/4/0

PIPE 1455 Introduction to Apprentice Pipe Welding 1

Basic course in pipe welding and cutting of pipe. (Prerequisite(s): Must be enrolled in Pipefitting apprenticeship program.) 2C/0/2/0

PIPE 1520 Basic Air Conditioning

Fundamental concepts of air conditioning are presented. Areas include air treatment, moisture content, ventilation and purity. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 2C/1/1/0

PIPE 1530 Pipe Welding 2

Basic course in arc welding on plate and pipe. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 5C/0/5/0

PIPE 1540 Electric Controls
Fundamentals of electricity and electrical circuits are covered. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 3C/1/2/0

PIPE 1550 Basic Gas
This is an introductory course on gas used in gas fired heating systems. Areas covered include natural gas burners, LP gas, burners, pipe sizing, flue venting, electricity and safety pertaining to gas fired systems. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 3C/2/1/0

PIPE 2615 Pipe Layout and Installation
This courses covers the care and use of tools and equipment used by the pipefitter, the identification and uses of different types of pipe, pipefittings, hangers and pipe supports. Assigned pipe projects will include calculating, measuring, cutting and assembling pipe and fittings in both straight runs and offsets. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2622 Rigging, Industrial Safety and OSHA
This course is designed to cover a broad range of OSHA safety standards in the construction industry. The second half of the course will concentrate on industrial rigging of pipe and equipment. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2642 Materials/Codes
This course will focus on Chemistry, Material Science and Metallurgy. The next portion of this course will focus on identifying all of the different Mechanical Standards, Codes and Specification Publications used in industry and how they apply to the acquisition of materials. The last portion of this course will focus on material take-off from isometric drawings and estimation of material and person-hours for example projects (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 5C/0/5/0

■ Political Science

POLS 1720 Introduction to American Government
This course provides an overview of the American political system. The course theme focuses on the principles of the constitution; the concept and processes of federalism; the interaction between the executive, legislative and judicial branches of government; the emergence of political parties, popular opinion, political campaigns; the evolution of domestic and foreign policy; and the role of the media in US politics. Special attention will be given to current affairs and their historical roots. (MnTC: Goals 5 & 9) 3C/3/0/0

POLS 1750 Introduction to Politics
This course provides a general introduction to the theory and practice of government and its relationship to society. Students will investigate the nature of politics, including competing ideological perspectives on: political theory, crime and punishment, economic policy, foreign policy and social policy. In addition, students will be challenged to consider their own political perspectives in-light of competing viewpoints and alternatives. (MnTC: Goals 5 & 9) 3C/3/0/0

■ Practical Nursing

PRNS 1410 Clinical Refresher
In this clinical course, a practical nursing student will need to demonstrate skills and abilities in performing nursing procedures. The student will participate in lab activities with instructor supervision. This course is specifically designed for the student who has had their clinical progression interrupted. (Prerequisite(s): Enrollment as a major in the College's Practical Nursing Program) 2C/0/2/0

PRNS 1420 Essentials of Clinical Pharmacology
This course covers introductory pharmacology information and dosage math including the metric, apothecary and household systems of measurement. Students will study conversions, solving for X, ratio and proportions and IV drip rate problems. Medications are studied according to classifications with emphasis on action, side effects and nursing implications. (Prerequisite(s): MATH 0742, Accuplacer math score minimum of 57th percentile, HLTH 1410, HLTH 1420, SPCH 1720 or 1730, PRNS 1440 or PSYC 1720, ENGL 1711, ADMS 1405, HLTH 1450, HLTH 1460, must be accepted as a premajor Practical Nursing student) 3C/2/1/0

PRNS 1430 Fundamentals of Nursing
This course introduces concepts of basic human needs, holism and the nursing theories and skills needed to meet the needs of clients. Skills are demonstrated and practiced in a supervised college laboratory setting. (Prerequisite(s): ENGL 1711, HLTH 1460, PRNS 1440 or PSYC 1720, SPCH 1720 or 1730, ADMS 1405, HLTH 1450 and HLTH 1460) 5C/1/4/0

PRNS 1440 Lifespan Development
This course teaches theories of human development and the progressive stages of physical, emotional, intellectual and social development during the life span, with particular emphasis on the increasing geriatric population. 3C/3/0/0

PRNS 1491 Clinical 1
In this course, the PN students will care for selected clients throughout the life span, with particular emphasis on care of the geriatric client. Students will implement cares and skills learned in prior theory and lab courses. Emphasis is on the basic needs of assigned clients, holistic evaluation and beginning application of the nursing process. (Prerequisite(s): Grade of "C" or better in PRNS 1420, PRNS 1430 and PRNS 1521) 4C/0/4/0

PRNS 1492 Clinical 2
In this clinical course the Practical Nursing students care for selected clients throughout the life span. Students will implement cares and skills learned in prior Practical Nursing theory and lab courses. Students will use the nursing process and holistic evaluation to meet the basic needs of assigned clients. (Prerequisite(s): Grade of "C" or better in PRNS 1491 and PRNS 2410; and concurrent enrollment in PRNS 1522) 4C/0/4/0

PRNS 1493 Clinical 3
In this clinical course, the Practical Nursing students will care for selected clients throughout the life span. Students will implement cares and skills learned in prior theory and lab courses. Students will continue the use of nursing process and holistic evaluation to meet the basic needs of assigned clients. (Prerequisite(s): Grade of "C" or better in PRNS 1492 and PRNS 1530) 4C/0/4/0

PRNS 1521 Medical Surgical 1
This course assists the student to apply the concept of the health-illness continuum and holism in promoting health and preventing illness. Students will study the physiologic aspects of client care, including communicable diseases. Included in this course is study of the disease process, as well as nursing management for the client with musculoskeletal, respiratory, neoplastic, reproductive and skin disorders. (Prerequisite(s): Grade of "C" or better in PRNS 1420 and PRNS 1430 or concurrent enrollment) 4C/4/0/0

PRNS 1522 Medical Surgical 2
This course identifies illness as it affects the neurological, sensory, urinary, cardiovascular, gastrointestinal and endocrine systems. It includes commonly used preventive and therapeutic measures, as well as nursing management. Also included in this course is the study of the critically ill and dying client. (Prerequisite(s): Grade of "C" or better in PRNS 1491) 4C/4/0/0

PRNS 1530 Maternal Child Health
This course assists the student to meet the basic health needs of the mother, the newborn infant and the family during pregnancy, labor, delivery and post partum period. This course provides the Practical Nursing student with an understanding of common pediatric disorders, recommended plans of care and the concepts of prevention and treatment. (Prerequisite(s): PRNS 1492 and PRNS 1522) 3C/3/0/0

PRNS 2410 Psycho/Social Nursing
This course will build on the student's understanding of human behavior and assist them in developing skills in the care of clients with psychiatric and social problems. It includes the study of mental/emotional illness, substance abuse and social problems emphasizing nursing management in all health care settings. (Prerequisite(s): Grade of "C" or better in ENGL 1711, HLTH 1410, HLTH 1420, SPCH 1720 or 1730, ADMS 1405, HLTH 1450 and PRNS 1440 or PSYC 1720, must be accepted as a premajor Practical Nursing student) 2C/2/0/0

PRNS 2491 Integrated Nursing Practicum
In this course additional topics and skills are taught that relate to the processional scope of practice for the graduate practical nurse as well as professional responsibilities and opportunities. Students will work in a clinical setting demonstrating correlation of theory and skills expected of new Practical Nurse graduates. (Prerequisite(s): Grade of "C" or better in all Nursing Program course requirements) 2C/0/2/0

■ Psychology

PSYC 1710 General Psychology
This course introduces psychological theory, experimental findings and applications of human behavior. Topics include research methodology, the nervous system, perception, cognition and memory, learning theory, human development, personality, emotions, attitudes, motivation, socialization and psychological disorders and related treatments. The course will explore current research and issues in psychology including the influence of heredity and the environment on behavior. (Prerequisite(s): COMM 0722 with a grade of "C" or better, or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 2 & 5) 4C/4/0/0

PSYC 1720 Psychology Throughout the Lifespan
The focus of this course is on human development throughout the lifespan. The course includes research methodology, theoretical perspectives and the physical, cognitive and psychosocial changes that influence people throughout their development. An application of research and theory to current issues will be addressed. (Prerequisite(s): COMM 0722 with a grade of "C" or better, or concurrent enrollment, or appropriate assessment score) (MnTC: Goals 5 & 9) 3C/3/0/0

PSYC 1730 Introduction to Child Psychology
This course covers child development from the prenatal period through middle childhood. The course will emphasize research methods, theories of child development and an exploration of the genetic and environmental factors that influence children's social and cognitive development. (Prerequisite(s): PSYC 1710 General Psychology) (MnTC: Goal 5) 3C/3/0/0

PSYC 1740 Abnormal Psychology
This course offers an integrated and multidimensional perspective of the study of psychopathology. Students learn about research methods, clinical assessment and diagnosis of psychological disorders using DSM-IV codes as a reference. Students also explore the ways in which mental illness affects peoples' lives. (Prerequisite(s): PSYC 1710 General Psychology) (MnTC: Goals 5 & 7) 4C/4/0/0

PSYC 1750 Introduction to Health Psychology
This course examines how psychological, social and biological factors interact with and affect individuals' efforts to promote their own health and prevent or cope with illness. Topics include individual responses by gender, age and ethnicity, variations in health-related behaviors, stress and illness; whether and what kind of treatment individuals seek for health problems and whether they adhere to treatment recommendations; and the theories and methods used by psychologists to understand these issues. (MnTC: Goals 5 & 7) 3C/3/0/0

■ Related Welding

RWLD 1410 Welding for Carpenters
Carpentry students become acquainted and familiar with basic welding and oxyacetylene cutting processes while learning proper safety techniques associated with welding. 3C/0/3/0.

RWLD 1430 Welding for Construction Electricity
Beginning course that includes a combination of oxyacetylene welding, cutting, arc and GMAW welding conducted in a limited time. Basic shop procedures will be conducted by lecture, demonstration and shop practice. Practice on three basic positions is provided. 2C/0/2/0

RWLD 1440 Introduction to Gas, Arc & Mig Welding
Beginning course includes a combination of oxyacetylene welding, cutting, arc and mig welding in a limited time. Basic shop procedures and safety are emphasized as is proper care of tools and equipment. Instruction will be conducted by lecture-demonstrations and shop practice. Practice on four basic joints in three basic positions is provided. Building an understanding and skill in the use of welding and manual cutting equipment are developed. 2C/0/2/0

RWLD 1445 Basic Welding for Auto Mechanics
Basic course in welding that includes Oxy-Fuel welding, cutting and brazing, GMAW (wirefeed) in all positions and introduction to SMAW (stick). Instruction will be conducted by lecture, demonstrations and live shop practice. Shop safety will be emphasized at all times. 2C/0/2/0

RWLD 1450 Advanced Mig & Tig Welding
Covers basic welding of light gauge metals in all positions as it relates to the Truck Mechanics field with an emphasis on safety. 2C/0/2/0

RWLD 2624 Apprenticeship Pipe Welding 4
Introduction to heliarc welding. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

RWLD 2627 Apprenticeship Pipe Welding 7
Includes Orbital welding for clean room pharmaceutical and food grade and biomedical application. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

■ Respiratory Therapist/Respiratory Care Practitioner

RESP 1410 Respiratory Care Essentials
This course introduces the basic sciences and concepts required for the study of respiratory care. This includes fundamentals of chemistry, cardiopulmonary anatomy, physiology, mathematics and physics. Also included is an introduction to the equipment used in basic respiratory care. Emphasis will be placed on physical gas laws and metabolic respiration. An introduction to the hospital and the patient's medical record will be completed. (Prerequisite(s): Acceptance into the program major, high school chemistry, college level math course with a grade of "C" or better, English Comp or equivalent with a grade of "C" or better) 3C/1/1/1

RESP 1510 Cardiopulmonary Pathophysiology 1
This course is an introduction to the assessment and pathophysiology of the patient with cardio-pulmonary disease. Emphasis is on assessment of oxygenation, ventilation and acid/base balance. Students are introduced to pulmonary pathophysiology emphasizing differences in obstructive and restrictive lung disease. (Prerequisite(s): CHEM 1711, HLTH 1410, HLTH 1420) 3C/1/2/0

RESP 1520 Respiratory Care Therapeutics
This course introduces the student to basic respiratory care therapeutics including: oxygen administration, aerosol delivery devices, bronchial hygiene methods and lung hyperinflation techniques. Specific equipment, indications, contraindications, adverse reactions and procedures associated with each therapeutic procedure are covered. (Prerequisite(s): CHEM 1711, Resp1410, HLTH 1420; Co-Requisite(s): RESP 1540) 5C/3/2/0

RESP 1540 Respiratory Care Pharmacology
This is an in-depth course in cardiopulmonary pharmacology emphasizing drug classification, basic chemistry and action on tissue receptors. Describes indications, actions and dosages of drugs used in cardiopulmonary care. (Prerequisite(s): CHEM 1711, RESP 1410, HLTH 1410 & HLTH 1420; Co-Requisite(s): RESP 1520) 2C/1/1/0

RESP 1591 Respiratory Care Clinical 1
Student will have direct patient contact and provide basic patient care procedures as directed by the clinical instructor. Emphasis is on data collection, application of oxygen, aerosol/humidification devices, bronchial hygiene and lung hyperinflation techniques. Students will also collect vital signs, practice physical assessment and auscultation techniques. Student will record appropriate information in patient's chart. (Prerequisite(s): RESP 1410, HLTH 1420; Completion of

American Heart Association CPR Course "C." Co-Requisite(s): RESP 1520, RESP 1540) 2C/0/0/2

RESP 1592 Respiratory Care Clinical 2
A continuation of clinical practice procedures for administration of routine patient care therapy. Emphasis is on bedside patient assessment and introduction to the critically ill patient. (Prerequisite(s): RESP 1591, RESP 1520, RESP 1540, RESP 1510, Co-Requisite(s): RESP 2410) 3C/0/0/3

RESP 1593 Respiratory Care Clinical 3
A continuation in clinical practice with emphasis given to acute care therapy. Mechanical ventilation and critical care skills are practiced and evaluated. (Prerequisite(s): RESP 1592, RESP 2410, RESP 2420) 4C/0/0/4

RESP 1594 Respiratory Care Clinical 4
Continuation of clinical practice skills with emphasis on critical care monitoring and procedures. Students will rotate through pediatrics, long-term care and adult critical care. A cystic fibrosis rotation will also occur during this semester. (Prerequisite(s): RESP 1593, RESP 2470) 6C/0/0/6

RESP 1595 Respiratory Care Clinical 5
Continuation of clinical practice skills in ICU. Students will rotate through neonatal/pediatric ICU, hemodynamic rotation and adult critical care. Medical Director rounds in the hospital and clinic are completed during this semester. ACLS certification is obtained this session. (Prerequisite(s): RESP 1594) 6C/0/0/6

RESP 2410 Mechanical Ventilation
This is an introductory course in the use of mechanical ventilation. Positive and negative pressure machines are discussed as well as other equipment and procedures related to mechanical ventilation. Methods of monitoring ventilator-patient response to therapy are also described. Emphasis is on clinical application and safety. (Prerequisite(s): RESP 1510, RESP 1520, RESP 1540, RESP 1591; Co-Requisite(s): RESP 1592) 4C/1/3/0

RESP 2420 Cardiopulmonary Pathophysiology 2
This course continues the study of cardiopulmonary pathophysiology. Emphasis is placed on specific obstructive, restrictive and hemodynamic abnormalities. (Prerequisite(s): RESP 1510; Co-Requisite(s): RESP 1592) 1C/0/1/0

RESP 2430 Neonatal/Pediatric Respiratory Care
This course introduces the student to principles of neonatal and pediatric respiratory care. (Prerequisite(s): RESP 2420) 2C/1/1/0

RESP 2440 Management of the Critically Ill Patient
This is an advanced course in mechanical ventilation and medical management of the critically ill patient. (Prerequisite(s): RESP 2410, RESP 2420; Co-Requisite(s): RESP 1593) 4C/1/3/0

RESP 2450 Cardiopulmonary Diagnostics
This course will examine cardiopulmonary function studies, the techniques used and the significance of the individual tests with regard to pulmonary disease. (Prerequisite(s): RESP 2420) 1C/0/1/0

RESP 2470 Registry Review
Advanced study in respiratory care procedures and preparation for the required NBRC entry-level examination. Each student must purchase and successfully complete the NBRC self-assessment entry-level examination. (Prerequisite(s): RESP 2410, RESP 1593) 3C/1/2/0

Course Descriptions

RESP 2510 Survey of Human Disease
This is a course in human pathology in which all body systems will be studied in relation to common diseases. This course is designed to assist the respiratory care student to acquire a basic knowledge of pathology required for the practice of respiratory care. (Prerequisite(s): RESP 2420) 2C/1/1/0

RESP 2520 Respiratory Care in Alternate Sites
This course provides the student with an introduction to the role of the RCP in alternative care sites such as rehabilitation facilities or care of the patient at home. 2C/1/1/0

■ Sheet Metal

SMET 1410 Sheet Metal Fitting Layout & Design
Covers sheet metal layout using parallel line development, radial line development and triangulation. Duct design and sizing will be included. 4C/2/2/0

SMET 1420 Sheet Metal Fitting Fabrication
Covers the procedures used to fabricate sheet metal fittings. Common seams and fasteners will be described. 4C/1/3/0

SMET 1430 Sheet Metal Drafting & Blueprint Reading
Covers principles of mechanical drawing. Students will interpret sheet metal blueprints. 2C/1/1/0

SMET 1440 Sheet Metal Welding
Covers the four processes used to weld sheet metal: Oxyacetylene, Shielded Metal Arc Welding, Gas Metal Arc Welding (Wirefeed) and Gas Tungsten Arc Welding (Tig or Heliarc). 5C/1/4/0

SMET 1450 Sheet Metal Practical Problem Solving
This course covers math used in the sheet metal trade. 2C/1/1/0

SMET 1510 Duct System Layout & Design
Covers the layout and design of duct systems used for HVAC and industrial ventilation systems. 4C/0/4/0

SMET 1520 Duct System Fabrication
Covers the fabrication and assembly of various types of duct systems. 4C/0/4/0

SMET 1530 Architectural Sheet Metal
Covers the fabrication and assembly of various types of Architectural Sheet Metal systems. Installation techniques will also be described. 4C/0/4/0

SMET 1540 Power Machine Operation
Covers the fabrication of sheet metal items using the power shear, press brake, power rolls, punch press and spotwelder. 3C/0/3/0

SMET 1550 Sheet Metal CAD/CAM Systems
Covers the setup and operation of plasma cutting systems and computer aided drafting systems. 3C/1/2/0

SMET 2700 OSHA 30 HR Training
Students will be given information in the fields of fire, ladders, scaffolding, electrical, cranes and many aspects of personal protective equipment. Students will be trained in welding shop, sheetmetal shop and field safety practices. 2C/2/0/0

■ Sociology

SOCI 1710 Introduction to Sociology
This course introduces students to sociology: the systematic study of human interaction and society. Major theoretical perspectives and research methods of sociology will be examined. The primary goal is to create an awareness of and appreciation for the range of social and cultural variations throughout the United States and worldwide, stressing characteristics shared by all people. Readings and social science examples will be drawn from cultures around the world, including the pluralistic culture of the United States. Another focus of the class is to dispel common myths and stereotypes surrounding society and human behavior. (MnTC: Goals 5 & 7) 4C/4/0/0

SOCI 1720 Social Issues in a Changing World
This course introduces students to modern issues of societal concern, including social problems that have endured over time and those that have emerged as societies modernize and cultures change. The influence of globalization on cultures around the world will be discussed. Specific topics include: effects of the media, modern family issues, war and genocide, terrorism, global health, environmental factors affecting society and culture, poverty and population growth, density and aging. Critical thinking skills will be developed through class discussions, debates and course assignments. (MnTC: Goals 5 & 8) 3C/3/0/0

SOCI 1730 Sociology of Families and Relationships
This course introduces students to the central ideas, challenges, theoretical perspectives and the diversity of human relationships, marriages and families. Global perspectives regarding families and the diversity of intimate relationships in contemporary societies will be discussed. Topics in this course could include the origins of marriage and diverse patterns of love, conflict, sexuality, parenting, single hood, interpersonal violence, divorce, extended families and gender roles. Reading and examples will be drawn from societies around the world. Common myths and challenges related to stereotypes of the "typical" family and "functional" relationships will be explored. Critical thinking skills will be developed through class discussions, debates and course assignments. (MnTC: Goals 5 & 7) 3C/3/0/0.

SOCI 1740 Making a Living in a Global Era: Sociology of Work
Sociology of Work introduces students to theories, issues and perspectives about work and workplaces in a global economy. The course explores occupations and professions in historical and contemporary settings. The interdependence of economic, social and political factors that shape and change the nature of work are covered within a global context. (MnTC: Goals 5 & 8) 3C/3/0/0

SOCI 1760 Mass Media and Society
This course provides students with a general understanding of how mass media operate in society and the influence of media messages in the areas of print media, recordings, radio, cinema, advertising, public relations, digital media and the Web. The course will emphasize basic definitions and the functions of mass media forms and practices; general socio-cultural theories as they apply to human interaction; national and global communications; social theories of the mass media; and the impact of mass media on society. (MnTC: Goal 5) 4C/4/0/0

SOCI 1765 Sociology of Deviance
Sociology of Deviance introduces students to the nature and meaning of deviance in society as well as how individuals become deviant. Materials, lecture and exercises will challenge students to see the diversity in and pervasiveness of deviance in society by discussing a wide variety of deviant acts and examining the construction of deviance in terms of differential social power, whereby some members of society have the power to define other whole groups as "deviant." A mixture of classic and contemporary readings that cover a wide range of issues in the Unites States and other parts of the world will be introduced, discussed and openly debated. (MnTC: Goals 5 & 7) 3C/3/0/0

SOCI 1770 Social Problems in Modern America
Social Problems in Modern America introduces students to the basic concepts of and theoretical explanations for "social inequality" - the state in which needs, privileges, and obligations are accessible to some and denied to others in society. This course offers a conceptual framework by which students can understand the social construction of difference by describing how categories of difference are created, considering the experience of difference, and by examining the meanings assigned to difference by law, politics, and public policy; the economy, science, popular culture and language. (MnTC: Goals 5 & 7) 3C/3/0/0

SOCI 1780 Social Psychology
This course focuses on social psychological theories and research to analyze how an individual's thoughts, feelings and actions influence other people, social settings and institutions. Topics include perception, attribution, socialization, attitudes, conflict, altruism, groups, power, conformity, prejudice, collective behaviors and social movements. (MnTC: Goal 5) 4C/4/0/0

SOCI 1790 Special Topics in Sociology
This course provides learning experiences that meet the needs of students and pre-major course requirements in sociology. (MnTC: Goal 5) 3C/3/0/0

■ Spanish

SPAN 1710 Beginning Spanish 1
An introduction to Spanish based on real-life situations, as well as an introduction to various aspects of Hispanic societies. Comprehension and basic speaking skills are emphasized. Some reading and writing is required. The overall goal of this course is to provide students with the linguistic foundation necessary to later achieve proficiency in the Spanish language. No previous knowledge of Spanish is necessary. 5C/4/1/0

SPAN 1720 Beginning Spanish 2
A continuation of SPAN 1710. Emphasis is on extending skills in everyday spoken Spanish. (Prerequisite(s): SPAN 1710 with a grade of "C" or better or equivalent) 5C/4/1/0

SPAN 1730 Intermediate Spanish 1
This course provides a continued development of communication in reading, writing, listening and speaking. There is an emphasis on communicating ideas in writing and conversation. As a part of the course, students will be exposed to the cultures of Spanish-speaking people through art, literature and history. (Prerequisite(s): SPAN 1720 with a grade or "C" or better or Placement Exam or permission of Instructor) (MnTC: Goal 8) 5C/4/1/0

SPAN 1740 Intermediate Spanish 2
This course is a continuation of Spanish 1730. The course provides a continued development of communication in reading, writing, listening and speaking. There is an emphasis on communicating ideas in writing and conversation. As a part of the course, students will be exposed to the cultures of Spanish speaking people through art, literature and history. (Prerequisite(s): SPAN 1730 with a grade of "C" or better, or placement exam or permission of Instructor) (MnTC: Goal 8) 5C/4/1/0

■ Speech

SPCH 1700 Introduction to Speech Communications
This course introduces the various principles of spoken human communication. Students will explore and practice the principles of effective oral communication within contexts of 21st Century life. Students will first practice development of the basic skills of this discipline and then demonstrate how to adapt these abilities to practical applications in both personal and business environments within various situations. (MnTC: Goals 1 & 8) 3C/3/0/0

SPCH 1710 Fundamentals of Public Speaking
This course covers the basic principles of preparing, researching and delivering informative, persuasive, impromptu and extemporaneous speeches. In addition, this course will include audience analysis and suggestions for overcoming speech anxiety. Students will analyze and evaluate the arguments and rhetorical methods used in public communication. (MnTC: Goals 1 & 8) 3C/3/0/0

SPCH 1720 Interpersonal Communication
This course focuses on the practical and theoretical concepts of human communications and the styles used in personal, social and professional environments. Students will also acquire skills in critical thinking, perception, listening, verbal and non-verbal expressions and conflict resolution. Students will evaluate their individual strengths and weaknesses in depth and develop techniques to improve interpersonal relations. (MnTC: Goals 1 & 7) 3C/3/0/0

SPCH 1730 Intercultural Communication
This course will study the influence of cultural differences on communication from both the sender and receiver of information. The course views the human communication process as it is influenced by nationality, ethnicity, linguistic development and gender. The course will explore the ways in which culture can shape the view of "reality" held by its members and influence communication patterns and cross-cultural relationships. Specifically the United States cultural orientations will be compared to those in other regions of the world. (MnTC: Goals 1 & 8) 3C/3/0/0

SPCH 1740 Mass Media and Communications
The influence of mass media communications on today's culture is an important issue in the United States and throughout many parts of the world. Students will research the influence of mass media on society. Topics include: advertising, propaganda, ethics, First Amendment issues, the role of government, literacy requirements of a digital world and problems and criticisms of media. (MnTC: Goals 5 & 9) 3C/3/0/0

SPCH 1745 Mass Media Production Techniques
This course is a continuation of SPCH 1740 Mass Media and Communications with a focus on mass media production. The influence of mass media and communication on today's culture in the United States and throughout the world will be covered with an emphasis on the channels of communication and related technology. (Prerequisite(s): SPCH 1740 Mass Media and Communication) (MnTC: Goals 5 & 9). 1C/1/0/0

SPCH 1750 Small Group Communication
In this course students will study communication in small groups. Topics include effective group communication theory and skills; group leadership, cohesion and roles; conflict-resolution and decision-making; planning and conducting meetings; and parliamentary procedure. The course explores group functioning in a variety of settings, including the workplace. There is an emphasis on the practical application of the content and the practice of oral communication skills. (MnTC: Goals 1 & 9) 3C/3/0/0

■ Theatre

THTR 1710 Introduction to Theatre
This course introduces students to study and explore theatre. Students will view local productions, study the diversity of drama and explore the methods and styles of actors, directors, playwrights and designers. (MnTC: Goal 6) 3C/3/0/0

■ Truck Technician

TRKM 1400 Introduction and Safety
This course will introduce the student to the trucking industry and the role of the student as a truck technician within this industry. Personal, shop, tool and environmental safety will be emphasized. 1C/0/1/0

TRKM 1521 Electrical 1
This course covers the design, theory of operation, repair procedures and diagnosis of batteries, lighting systems, instruments and accessories used in commercial trucks. 5C/1/4/0

TRKM 1522 Electrical 2
This course covers the design, theory of operation, repair procedures and diagnosis of starting systems, charging systems and an introduction to electronic systems used in commercial trucks. 5C/1/4/0

TRKM 1551 Clutch and Transmission
This course covers the design, theory of operation, repair procedures and diagnosis of clutches and manual transmissions used in commercial trucks. 5C/1/4/0

TRKM 1552 Driveshafts and Differentials
This course covers the design, theory of operation, repair procedures and diagnosis of drive shafts and differentials used in commercial trucks. 4C/1/3/0

TRKM 1553 Automatic and Automated Transmission
This course covers the design, theory of operation, repair procedures and diagnosis of automated manual transmissions and automatic transmissions used in commercial trucks. 4C/1/3/0

TRKM 1560 Truck Brake Systems
This course covers the design, theory of operation, repair procedures and diagnosis of hydraulic and air brake systems used in commercial trucks. 6C/1/5/0

TRKM 2401 Steering and Suspension Systems
This course covers the design, theory of operation, repair procedures and diagnosis of steering, suspension and chassis components used in commercial trucks. 6C/1/5/0

TRKM 2425 Truck Cab Climate Control Systems
This course covers the design, theory of operation, repair procedures and diagnosis of the heating, ventilation and air conditioning systems used in commercial trucks. 3C/1/2/0

TRKM 2440 Gasoline Engines
This course covers the design, theory of operation, repair procedures and diagnosis of gasoline engine fuel and ignition systems used in commercial trucks. Engine overhaul procedures will also be covered. 6C/1/5/0

TRKM 2511 Diesel Engines 1
This course covers the design, theory of operation, repair procedures and diagnosis of diesel engines used in commercial trucks. 6C/1/5/0

TRKM 2512 Diesel Engines 2
This course covers the design, theory of operation, repair procedures and diagnosis of mechanical and electronic fuel systems used on diesel engines in commercial trucks. 6C/1/5/0

TRKM 2540 Preventive Maintenance
This course covers the preventive maintenance practices used to keep commercial trucks and trailers in proper and safe working order. Shop procedures, record keeping, computer usage and job seeking skills will also be covered. 3C/1/2/0

■ Watchmaking/Clockmaking

WMCM 1200 Micro Mechanics - Filing 1
In this course students will learn the fundamentals of the micro mechanical processes by acquiring skills and knowledge through the use of hand tools such as hand files, jeweler's saw and various vices and clamps. Students will make many tools required in later courses while starting to build the dexterity needed for this field of study. The proper use of measuring instruments, the reading of technical diagrams and metallurgy will be introduced. 5C/2/3/0

WMCM 1201 Micro Mechanics - Filing 2
In this course students will learn to utilize the tools they made in the previous course to hand file precision flats and spheres. Emphasis will be placed on the production of pieces to close tolerance specifications. The use and function of optical magnification for inspection will be taught and used to assess the student's capabilities. 5C/2/3/0

WMCM 1202 Micro Mechanics - Turning 1
In this course students will learn the proper use and function of a watchmaker's lathe and turns to make cylindrical shapes to precise measurements. The students will learn to shape, sharpen and use hand gravers to cut brass and steel wire. The cutting of right angles and radii will be introduced. 5C/2/3/0

WMCM 1203 Micro Mechanics - Turning 2
In this course students will build on the skills, knowledge and dexterity acquired in previous courses by turning wire to smaller dimensions and to closer tolerances. The burnishing of metals for appearance and strength will be introduced. Emphasis will be placed on the finish of work pieces produced. An assessment of student learning to date will be given and graded by Swiss industry professionals. 5C/2/3/0

WMCM 1204 Micro Mechanics - Tool Making 1
In this course, students will learn the basics of mechanical interaction through the use of a tap and die to form internal as well as external threads and the hand fitting of components to extremely close tolerances. Students will also learn hardening techniques to make springs of various shapes, sizes and uses. The decorative finishing of metals will be introduced. 5C/2/3/0

WMCM 1205 Micro Mechanics - Tool Making 2
In this course students will put to use all the skills and knowledge acquired in the filing, turning and tool making courses to manufacture precision and complex tools and devices. The student will also learn connection techniques such as soldering and gluing. The polishing and plating of metals will be introduced and an electronic portfolio of work will be created. 5C/2/3/0

WMCM 1206 Micro Mechanics - Mainsprings
In this course students will learn through theory and practical exercises the use of mainsprings as a power source for micro mechanical mechanisms. The students will also learn to fit arbors for proper end-shake and side-shake. Bearing surfaces and lubrication will be introduced. 5C/2/3/0

WMCM 1207 Micro Mechanics - Gear Train
In this course students will learn the theory of wheel and pinion ratios through the use of algebraic calculations as well as the practical application of power transmission through the gear train. Students will also learn to set jeweled bearings and precision oiling. Wheel truing and pivot straightening will be introduced. 5C/2/3/0

WMCM 1208 Micro Mechanics - Escapement
In this course students will learn the theory of escapements from a historical and modern point of view. Students will also apply this theory by making adjustments to several modern and antique escapements. 5C/2/3/0

WMCM 1209 Micro Mechanics - Balance Wheel
In this course students will learn the theory of balance wheel development throughout history and its relationship to precision timekeeping. In practical application students will perform balance staff replacements, truing and poising manipulations to modern and antique balance wheels. Roller jewel replacement will be introduced. 5C/2/3/0

WMCM 1210 Micro Mechanics - Hairspring 1
In this course students will learn the fundamentals of hairspring manipulation by straightening hairsprings in the flat and round as well as forming and correcting over-coils. 5C/2/3/0

WMCM 1211 Micro Mechanics - Hairspring 2
In this course students will learn to collect, vibrate and stud hairsprings for several modern movements. Students will also learn the formation of terminal curves in relation to the regulating pins. 5C/2/3/0

WMCM 1212 Micro Mechanics - Timing
In this course students will learn to use the timing machine and amplimeter as a diagnostic tool and a means of assessing beat and timing errors. 5C/2/3/0

WMCM 1213 Micro Mechanics - External Parts and Capstone
In this course students will learn to replace dials, hands, crowns, crystals and gaskets. Students will also learn waterproof testing, case refinishing and band sizing. Students will also complete their college watch and electronic portfolio. 4C/0/4/0

WMCM 1480 Horological Lab 1
This horological lab is designed to allow completion of hands-on skill activities and enhance the practical aspects of courses related to WMCM courses. 3C/0/3/0

WMCM 1580 Horological Lab 2
This horological lab is designed to allow completion of hands-on skill activities and enhance the practical aspects of courses related to WMCM courses. 3C/0/3/0

WMCM 2300 Watchmaking - Calendar
In this course students will learn the theory of historical and modern watch calendar mechanisms. Practical skills will be taught on several modern calendar movements. Instantaneous, non-instantaneous and quick-set mechanisms will be covered. 5C/2/3/0

WMCM 2301 Watchmaking - Automatic
In this course students will learn the theory of historical and modern automatic winding watch mechanisms. Practical skills will be taught on several modern automatic movements. 5C/2/3/0

WMCM 2302 Watchmaking - Quartz
In this course students will learn to diagnose and repair quartz watch movements. The proper use of electronic diagnostic equipment to determine resistance, low voltage working limit and consumption will be covered. 5C/2/3/0

WMCM 2303 Watchmaking - Precision Timing
In this course students will learn the theory of dynamic poising, Isochronism and chronometric standards. The students will apply this knowledge by precisely timing several timepieces of suitable quality. 5C/2/3/0

WMCM 2304 Watchmaking - Chronograph
In this course students will learn to diagnose, disassemble, reassemble and adjust chronograph movements. Cam, pillar wheel and other chronograph movements will be covered in detail. 5C/2/3/0

WMCM 2305 Watchmaking - Capstone/Career Preparation
This course will serve as final preparation for capstone assessment such as the AWI Certified Watchmaker examination, the Saint Paul College Certified Watchmaker examination and the WOSTEP final examination. The students will also receive training in workshop organization, resume writing, interviewing skills and job searching options. 5C/2/3/0

WMCM 2480 Horological Lab 3
This horological lab is designed to allow completion of hands-on skill activities and enhance the practical aspects of courses related to WMCM courses. 3C/0/3/0

WMCM 2510 Basic Clock Repair

This course will cover the assessment of needed repairs, basic repair techniques, needed tools and their application, some specialized bench techniques and estimating costs to repair an hour/half hour striking American clock. Basic lathe skills are included. Skills needed for class are average mechanical ability, normal eyesight with or without glasses and a basic set of clock tools that cost about $200. 4C/3/1/0

WMCM 2511 Basic Clock Benchwork

This course will include repair of lantern pinions, replacement of lantern pinion trundels, replacement of broken wheel and barrel teeth, fitting new strip pallets, refinishing pallet pads, making large and special bushings, using "soft" solder, straightening arbors and pivots, straightening escape wheel teeth and making escape wheel round and concentric. 3C/2/1/0

WMCM 2512 Introduction to Clock Escapements

This course will introduce students to a variety of clock escapements including recoil, Graham Dead Beat, Brocott, Pin Lever, Floating Balance, Verge and Pinwheel. Students will be able to identify each escapement and to make basic adjustments to make escapements functional. (Prerequisite(s): WMCM 2510) 3C/2/1/0

WMCM 2518 Horological Micro-Lathe

This course allows students to develop clock repair skills using the Lathe. This is a hands-on course. Students will be required to perform techniques and procedures demonstrated by the instructor. Individual projects include making tools and parts with a clockmaker's lathe used in the trade. 3C/2/1/0

WMCM 2530 Westminster Chime Clock Repair

This course will cover the identification, disassembly, repair, reassembly, adjustment and coordination of a modern Westminster Chime clock movement. (Prerequisite(s): WMCM 2510, or one year of experience in clock repair) 3C/2/1/0

WMCM 2531 Antique & European Clock Repair

Covers the identification, disassembly, repair, reassembly, adjustment and coordination of selected Antique and European Clocks. There will be an emphasis on unique escapements. (Prerequisite(s): WMCM 2510) 4C/3/1/0

WMCM 2532 Cuckoo Clock Repair

This course will present the assessment of needed repairs, basic repair techniques, needed tools, specialized bench techniques and estimating costs of repair of Cuckoo Clocks. (Prerequisite(s): WMCM 2510) 3C/2/1/0

WMCM 2535 Repair of Specialty Clocks

This course will include making basic repairs on a 400-day, quartz, electric fit up and other specialty clocks. (Prerequisite(s): WMCM 2510, or one year experience in Clock Repair) 3C/2/1/0

■ Welding Fabrication

WELD 1410 Oxy-Acetylene Welding, Cutting & Brazing

Covers the theories and concepts necessary for an understanding of basic oxy-acetylene welding, cutting and brazing processes. Emphasis will be on safe work habits and industry standards. 3C/1/2/0

WELD 1420 SMAW E6013

Covers the theories and concepts necessary for the introduction of the Shielded Metal Arc Welding (SMAW) process using E6013 in the flat and horizontal position, along with the use and care of SMAW equipment. Industry standard and safety practices will be emphasized. 3C/0/3/0

WELD 1431 Blueprint Reading 1

Designed to cover such fundamental principles of drawing interpretation as may be required by the layout welder and setup person. To accomplish this objective, basic lines and the functions are studied and projects are assigned. 2C/0/2/0

WELD 1432 Blueprint Reading 2

This course is part of the study beyond the core of blueprint reading skills in the development of a full knowledge of welding symbols as specified by the American Welding Society. Each type of weld and its related joint preparation is represented by a specific weld symbol. Size, shape, length, type of process and joint configuration are part of the symbols. (Prerequisite(s): WELD 1431 or instructor approval) 2C/1/1/0

WELD 1440 Basic SMAW E6010

Covers basic concepts and theory in the SMAW process using the E6010 electrode in the flat, vertical and overhead positions and the AWS terms used for parts of a weld. Safety and industry standards will be emphasized. 3C/0/3/0

WELD 1450 E7018 Advanced SMAW

Covers the manipulative skills and procedures necessary for the completion of E7018 Shielded Metal Arc welds in all positions. Weld testing procedures will be stressed. 3C/0/3/0

WELD 1465 Metallurgy and Welding Theory

This course is introduces the practices and procedures necessary for completion of single and multi-pass welding. The course also covers basic knowledge of metallurgy and testing equipment used in the welding field. Quality control will be emphasized. 2C/1/1/0

WELD 1470 Measuring Devices

Covers the use of different measuring devices used in the metal and welding trades. 1C/0/1/0

WELD 1510 Areas Layout

Covers the calculation of the area of geometric figures for use in layout and cutting operations. This knowledge and hands-on activities are essential for the success in the field for welders and metal fabricators. 2C/0/2/0

WELD 1520 GMAW Short Arc

Provides students with the opportunity to build proficiency in the GMAW (Gas Metal Arc Welding) process using the short arc transfer with mild steel. All positions will be covered. Student will be expected to work to industry standards for apprentice welders in the area of quality and efficiency. 3C/1/2/0

WELD 1530 Inspection, Qualification and Carbon Arc

Provides students with the opportunity to build proficiency in E7018 Shielded Metal Arc Welding for MNDOT and AWS standards. The use of carbon arc cutting will also be covered. Students will be expected to work within industry standards for apprentice welders in the areas of quality and efficiency. 3C/0/3/0

WELD 1540 GMAW Spray & Pulse Spray
Provides students with the opportunity to build proficiency in the GMAW process using the spray and pulse spray transfers with mild steel. All positions will be covered. Students will be expected to work to industry standards for apprentice welders in the area of quality and efficiency. 3C/0/3/0

WELD 1550 GMAW Aluminum & Stainless Steel
Provides students with the opportunity to build proficiency in the GMAW process using Aluminum and Stainless Steel. The introduction of the Aluminum and Stainless numbering system will be covered. Students will be expected to work to industry standards for apprentice welders. 3C/0/3/0

WELD 1560 Grinding and Finishing
This course is designed to build proficiency in the grinding, finishing and preparation of welds and other products used in the industry. The student will be expected to work within industry standards for apprentice welders and grinders. Live projects will be supplemented with assigned projects. 2C/2/0/0

WELD 1561 Radan Drafting Solutions
This course introduces the practices and procedures for the use of Radan software in the Fabrication field. Students will be required to work within industry standards for metal layout. 2C/2/0/0

WELD 1562 Introduction to Ornamental Welding
This course introduces the practices and procedures necessary for ornamental iron and the basic layout and designs that are used in this field. (Prerequisite(s): Welding and Cutting class) 2C/2/0/0

WELD 2410 GTAW for Mild Steel
Provides students with the opportunity to build proficiency in the GTAW process with mild steel in all positions. The student will be expected to work to industry standards for apprentice welders in the areas of quality and efficiency. 3C/1/2/0

WELD 2420 GTAW Aluminum & Stainless Steel
Provides the student with the opportunity to build proficiency in the GTAW process using Aluminum and Stainless steel in all positions. The student will be expected to work to industry standards for apprentice welders in the areas of quality and efficiency. 3C/0/3/0

WELD 2430 Volumes Layout
Covers the volumes of geometric figures used in the layout and shearing operations. This knowledge and hands-on application is essential to welding and metal fabrication. (Prerequisite(s): WELD 1510 or instructor approval) 2C/0/2/0

WELD 2440 FCAW & SAW Process
Designed to build proficiency in FCAW and SAW processes. The student will be expected to work within industry standards for apprentice welders. Live projects will be supplemented with assigned projects. 3C/0/3/0

WELD 2460 Introduction to Layout
Designed to build proficiency in welding skills taught in previous classes and introduce the student to Metal Fabrication. The student will be expected to work within industry standards for apprentice welders/fabricators. Live work projects will be supplemented with assigned projects. Related skills not previously introduced, which are encountered in live work situations, will be taught as needed. 3C/1/2/0

WELD 2510 Fabrication Shop Hand Equipment
Designed to build proficiency in the metal fabricating field. The student will be expected to work within industry standards for apprentice welders/fabricators. Live work projects will be supplemented with assigned projects. Related skills not previously introduced, which are encountered in live work situations, will be taught as needed. (Prerequisite(s): Instructor approval) 3C/0/3/0

WELD 2511 Fabrication Shop/Equipment 1
Designed to build proficiency in fabrication skills taught in previous classes. The student will be expected to work within industry standards for apprentice fabricators. Live work projects will be supplemented. Introduction to Plasma Cutting (CNC), Turret Punch (CNC) and Press Break (CNC) operations will be covered. (Prerequisite(s): WELD 2510) 3C/0/3/0

WELD 2520 Robotics
Designed to build proficiency in the robotic welding field. The student will be expected to work within industry standards for apprentice welders. Live work projects will be supplemented with assigned projects. Related skills not previously introduced, which are encountered in live work situations, will be taught as needed. (Prerequisite(s): WELD 1520) 2C/0/2/0

College Administration, Faculty and Academic Support

Administration

Schwichtenberg, Donovan
President
BS, Mankato State University
MA, University of Minnesota
EdS, University of St. Thomas
PhD, Walden University

Kennedy, Peggy
Vice President, Academic Affairs & Student Development
BS, University of Wisconsin, Whitewater
MA, University of Minnesota
EdD, University of Minnesota

Anderson, Craig
Vice President, Administration
BS, State University of New York, Albany
MS, University of Wisconsin, Stout
EdS, University of Wisconsin, Stout

Mahoney, Jan
Vice President of Finance & Operations
BS, University of Minnesota, Morris
MA, St. Cloud State University

Schmidt, Rachelle
Director, Human Resources
BBA, University of Minnesota, Duluth

Krasowski, Marilyn
Dean, Health and Service Programs
BA, Hamline University
MSN, New York Medical College
EdD, University of Minnesota

Krebsbach, Sandra
Dean, Technical, Trade & Industrial Programs
BA, Creighton University
MA, University of Minnesota
PhD, University of Minnesota

Saeed, Najam
Dean, Information Technology
BS, University of Punjab
MS, Quaid-I-Azam University
MAT, Wayne State University
MS, University of Texas, Dallas

Schwartz, Sherry
Dean, Liberal Arts and Sciences
BS, University of Minnesota
MA, University of Minnesota
PhD, University of Minnesota

Striegel, Nicole
Dean, Student Development & Services
BS, University of New Orleans
MBA, University of New Orleans
DBA, University of Grenoble

Weisensel, Mary
Dean, Business, Computer Science & Deaf Education
BE, University of Wisconsin, Whitewater
MA, University of Minnesota
PhD, University of Minnesota

Bibeau, Shelley
Associate Dean, Instructional Technology
and Professional Development
BA, Metropolitan State University
MS, Minnesota State University, Mankato
EdS, Nova Southeastern University

Tomsic, Margie
Associate Dean, Assessment and Research
BS, University of Washington
MS, University of Oregon
PhD, University of Oregon

Brown, James
Director, Marketing & Communications
BA, Metropolitan State University

Doody, Thomas
Physical Plant Director
Diploma, Saint Paul College—A Community
    & Technical College

Yep, Katie
Registrar
Diploma, Saint Paul College—A Community
    & Technical College
AA, Lakewood Community College
BA, Metropolitan State University

Academic/Student Support

Carrico, Sarah
Transfer Specialist
BA, University of Wisconsin
MA, University of Maryland-College Park

Christensen, Andy
Director, Disability Services
BA, Columbia University
EdM, Harvard University

Johnson, Marisa
Director, Student Life
BA, Quincy College
MS, Western Illinois University

Johnson, Xy
Transfer Specialist
BA, St. Olaf College
MA, University of Minnesota

Kjelland, Anne Marie
Director, Career and Placement Center
BA, Metropolitan State University

Matos, Thomas
Director, Enrollment Services
BA, Haverford College, PA
MA, Stanford University

Prater, Susan
Director, Financial Aid
BS, Oklahoma State University
ME, University of Central Oklahoma

Reid, Greg
Financial Aid
AAS, Inver Hills

Thornton, Colleen
Financial Aid
AA, Normandale

Warren, Erin
Academic Support Center Coordinator
BA, Mesa State College

Zehnder, Brenda
Assistant Registrar
BS, University of North Dakota

Faculty

Acosta, Judy
Occupational ESL
BA, University of San Marcos, Peru
MA, University of Minnesota
MS, University of Wisconsin

Anglin, Jennifer
Medical Office Careers
BS, University of Wisconsin-Superior
MA, College of St Scholastica

Babina, Lyubov
Esthetics
AAS, Saint Paul College—A Community
    & Technical College
MS, Lvov State Medical University, Ukraine

Bahl, Douglas
Sign Language Interpreter/Transliterator
BA, Gallaudet University

Balego, Gail
Culinary Arts
AA, Saint Paul College—A Community
    & Technical College
BS, University of Minnesota
MBA, University of St. Thomas
MS, University of Wisconsin

Blaeser, Delores
Cosmetology
Diploma, University of Minnesota
Diploma, Oliver Thein School of Beauty

Blanchard, Judy
English
BS, University of Wisconsin
MA, University of Wisconsin

Boden, Karen
Practical Nursing
AAS, Century College
BS, University of St. Francis

Bommarito, Aaron
Art
BA, Kalamazoo College
MFA, Arizona State University

Braginsky, Inna
Occupational ESL
BA, Institute of Foreign Languages, Russia
MEd, University of Minnesota

Briski, Michelle
Medical Laboratory Technician
BA, Hamline University
MEd, University of Minnesota

Buchkoski, Dave
MCPO Counselor/Training Coordinator
AAS, North Central Technical Institute
BS, University of Wisconsin, Stout
MS, University of Wisconsin, Stout

Buhain, Joseph
Respiratory Care
AS, Valencia College
AA, University of Central Florida
BA, Baker College

Chandler, LeRoy
Computer Careers
Diploma, LaSalle Extension Institute
Diploma, Control Data Institute
BS, Capella University

Cieslak, Walter
Floor Covering

Christianson, Mark
Painting and Decorating
Certificate, Hennepin Technical College

Connelly, Michael
Sheet Metal
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Minnesota

Costello, Lorie
Administrative Support Careers
BA, Metropolitan State University

Cregan, Joanna
Biology
BS, Beloit College
MS, University of Minnesota

Crispin, Mary
English
BA, University of Minnesota
MA, University of St. Thomas

Dahlstrom, Rick
Welding
Diploma, Saint Paul College—A Community
    & Technical College

Dale, Kelly
Medical Office Careers
BA, College of St. Scholastica

DeRosier, Douglas
Auto Body Repair
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Wisconsin, Stout

Dreese, Lynn
Biology
BS, Kansas State University
MS, Kansas State University

Duggan, Patrick
Coordinator for Interpreter Consortium, Counselor
BA, Conception College
MA, University of Iowa
EdS, University of St. Thomas

Finnegan, Mary
Cosmetology
Diploma, Oliver Thein Beauty School
AAS, Saint Paul College—A Community
    & Technical College

Fischer, Lawrence
Culinary Arts
Diploma, Saint Paul College—A Community
    & Technical College

Fitzgerald, David
Welding
Diploma, Austin Area Vocational Technical Institute

Fowler, Bonnie
Administrative Support Careers
AAS, Bismark Jr. College
BA, Moorhead University
MA, University of Minnesota

Franko, Jude RN
Nursing Program
Diploma, Seton School of Nursing
Certificate, St. Mary's—Rehab. Certificate

Gamez, Martha
Occupational ESL
BA, Macalester College

Gay, William
Accounting
BS, University of Minnesota
Certified Public Accountant
MBA, Metropolitan State University

Gibbons, Nora
Psychology
BA, University of St. Thomas
PhD, University of Missouri, St. Louis

Giles, L. Ivory
Communications
BS, Indiana State University
MEd, University of Minnesota

Guadano, Luis
Spanish
BA, Universidad Complutense (Madrid, Spain)
MA, Texas A&M University

Haffner, Michael
Developmental Reading
Diploma, Saint Paul College—A Community
    & Technical College
AA, Austin Junior College
BS, Winona State College
MEd, University of Minnesota

Haider, Julia
Philosophy
BA, Valparaiso University
MA, Marquette University
MA, University of St. Thomas

Hanes-Goodlander, Lisa
Counselor
BA, Wright State University
MS, Wright State University
PhD, University of Minnesota

Hawkes, Michael
Automotive Service Technician
Diploma, Saint Paul College—A Community
    & Technical College

Hedlund, Richard
Truck Technician
Diploma, Minneapolis Vocational High School

Hillstead, Thomas
Cabinetmaking
Diploma, Saint Paul College—A Community
    & Technical College

Hughes, Linda
Administrative Support Careers
BS, University of Wisconsin, Eau Claire
MEd, University of Minnesota

Ignatjeva, Anna
Speech
BA, University of Latvia
MS, Minnesota State University, Mankato

Juaire, Joseph
Watch, Clock and Jewelry Repair
Diploma, Saint Paul College—A Community
    & Technical College
Certificate, WOSTEP, Switzerland

Kalfsbeek, Jenna
Sociology
BS, University of Minnesota, Duluth
MA, University of Maryland

Kalkes, Jean
Cosmetology
Diploma, Saint Paul College—A Community
    & Technical College

Kirby, Colleen
Cosmetology
Diploma, Saint Paul College—A Community
    & Technical College

Klava, Skippy
Practical Nursing
Diploma, St. Luke's Hospital, North Dakota

Kohls, Char
Cosmetology
Diploma, Model Beauty School

Kortenhuf, Kurt
History
BA, University of Wisconsin-Eau Claire
MA, University of Wisconsin-Eau Claire

Kruetter, Jean
Interpreter Training Program
BA, Metro State University

Krug, Manfred
Culinary Arts
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Wisconsin-Stout
AOS, Culinary Institute of America

Kusilek, Delbert
Electronic Technology
Diploma, Brown Institute

Leggs, Michael
English
BA, Kansas State University
MA, Kansas State University

LeMay, Joyce
Human Resources Careers
BS, University of Wisconsin, Stout
MBA, Metropolitan State University

Loewen, Kendal
Computer Careers
BS, University of Minnesota

Lundin, Jeff
Administrative Support Careers
BS, Bemidji State University
MEd, University of Minnesota

Malaski, Robert
Major Appliance Repair
Diploma, Saint Paul College—A Community
    & Technical College
Certificate, EPA (Refrigeration) Universal Technician

Massa, Janet
Child Development Careers
BS, University of Wisconsin, Stout
MA Concordia College

McClure, Laura
Practical Nursing
BS, Winona State College

McDonald, Mary
Practical Nursing
RN, Lutheran Deaconess Hospital

McDonald, Perpetua
Practical Nursing
BS, South Dakota State University

McKown, Kelly
Child Development
BS, California State University
MS, University of Wisconsin, Stout

Mehmood, Nasreen
Biology
BS, Osmania University
MS, Osmania University
PhD, Osmania University, India

Mills, Anita
Health Unit Coordinator
BA, Concordia University

Murray, Terry
Machine Tool Processes
Diploma, Saint Paul College—A Community
    & Technical College

Nguyen, Francois
Mathematics
BA, University of St. Thomas
MEd, University of LaVerne

Nordstrom, Robert
Pipefitting
Diploma, Saint Paul College—A Community
    & Technical College

O'Connell, Patricia
Interpreter Training Program
BS, University of Wisconsin, Madison

Parks-Lasar, Kathleen
Practical Nursing
AA, Inver Hills Community College
BA, Metropolitan State University
MA, University of St. Thomas

Patten, Sharon
Practical Nursing
AAS, Metropolitan Community College

Paulnock, Daniel
Speech
BS, Emerson College
MS, Emerson College

Pearson, Darren
Computer Careers
BSEE, University of North Dakota
MS, University of Minnesota

Pelton, Jerry
Culinary Arts
Diploma, Madison Area Technical College

Poth, Lynn
Medical Laboratory Technician
BS, University of Texas, El Paso
MS, University of North Dakota

Pyzik, Linda
Administrative Support Careers
BS, University of Minnesota
MEd, University of Minnesota

Rasmussen, Greg
Electronic Technology
Diploma, Saint Paul College—A Community
    & Technical College

Reasoner, David
Construction Electricity
Diploma, Saint Paul College—A Community
    & Technical College
AES, Normandale Community College

Reigstad, Shelby
Speech
BS, St. Cloud State University
MA, Bethel College

Richman, Ilene
Cosmetology
Diploma, Johnson Beauty Academy

Rock, Jayne
English
BA, St. Cloud State University
BA, South Dakota State University
MA, English Literature

Ross, Kathy
Respiratory Care
AAS, Pima College, Arizona

Russell, Judy
Respiratory Care Practitioner
AAS, Saint Paul College—A Community
    & Technical College

Sartain, Jeremy
Massage Therapy
BA, University of Minnesota, Duluth

Saucedo, Dominic
English
BA, Carleton College
MA, University of St. Thomas

Scheibe, Karen
Interpreter Training Program
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Minnesota
MA, University of St. Thomas

Scherbenski, Ron
Automotive Service Technician
Diploma, Dunwoody Institute

Schmitz, Lisa
Mathematics
Psychology
BS, University of Wisconsin, River Falls
MS, University of Minnesota
MA, University of St. Thomas

Schones, Edward
Construction Electricity
BA, Macalester College
MA, University of Minnesota

Selton, Julie
Construction Electricity
AA, Anoka-Hennepin Technical College

Senger, Susan
International Trade Careers
BA, College of St. Scholastica
MA, College of St. Scholastica

Setley, Keith
Construction Electricity
AA, Saint Paul College—A Community
    & Technical College
BS, University of Wisconsin-Stout

Sheaffer, Warren
Computer Careers
BS, University of Pittsburgh
MBA, University of Pittsburgh
MST, Massachusetts Institute of Technology

Skally, Sharon
Practical Nursing
BS, Augustana College

Starkey, Penny
Chemistry
BS, University of St. Thomas
PhD, University of Minnesota

Stewart, Ruben
Floor Covering

Stone, David
Construction Electricity
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Minnesota

Strand, Timothy
Carpentry
Diploma, Saint Paul College

Stunkard, Mary
Biology
BS, Michigan Tech University
MS, Michigan Tech University
PhD, Southern Illinois University-Carbondale

Su, Ba
Mathematics
BS, University of Wisconsin, River Falls
MS, Iowa State University

Sundlie, Jolene
Sociology
BA, Moorhead State University
MS, North Dakota State University

Sundquist, Gretchen
Esthetics
Certificate, Saint Paul College—A Community
    & Technical College

Thompson, Douglas
Watch, Clock & Jewelry Repair
Diploma, Saint Paul College

Tri, Ben
Librarian
BA, St. Thomas University
MS, University of Wisconsin, Milwaukee

Tsegaw, Yewondwossen
Practical Nursing
AS, Minneaplolis Community & Technical College

Vinkemeier, Roy
Accounting
BA, Mankato State College
MBA, Mankato State College

Virnig, Carole
Sign Language Interpreter/Transliterator

Virnig, Heather
Sign Language Interpreter/Transliterator
BA, Gallaudet University
MS, McDaniel College

Wesley, Kathryn
General Studies & Vocational Assessment
BS, University of Wisconsin, Stevens Point
MS, University of Wisconsin, Stout

Widmyer, David
Machine Tool Processes
Diploma, Saint Paul College—A Community
    & Technical College
BS, University of Wisconsin-Stout

Wold, Richard
Machine Tool Processes
Diploma, Saint Paul College—A Community
    & Technical College
ALA, University of Minnesota
BS, University of Minnesota
MEd, University of Minnesota

Zitzer, Carl
Sheet Metal
Diploma, Saint Paul College—A Community
    & Technical College
BA, National Labor College

Index

Directions & Parking

Easy to Find. Easy to Get To.

Saint Paul College is centrally located and convenient to get to, whether you're driving or coming by bus. Our campus is located in the heart of Saint Paul's Cathedral Hill on the corner of John Ireland Boulevard and Kellogg Avenue. We are just blocks from the State Capitol, History Center, downtown Saint Paul and numerous coffee shops, great restaurants and the Xcel Energy Center, home of the Minnesota Wild.
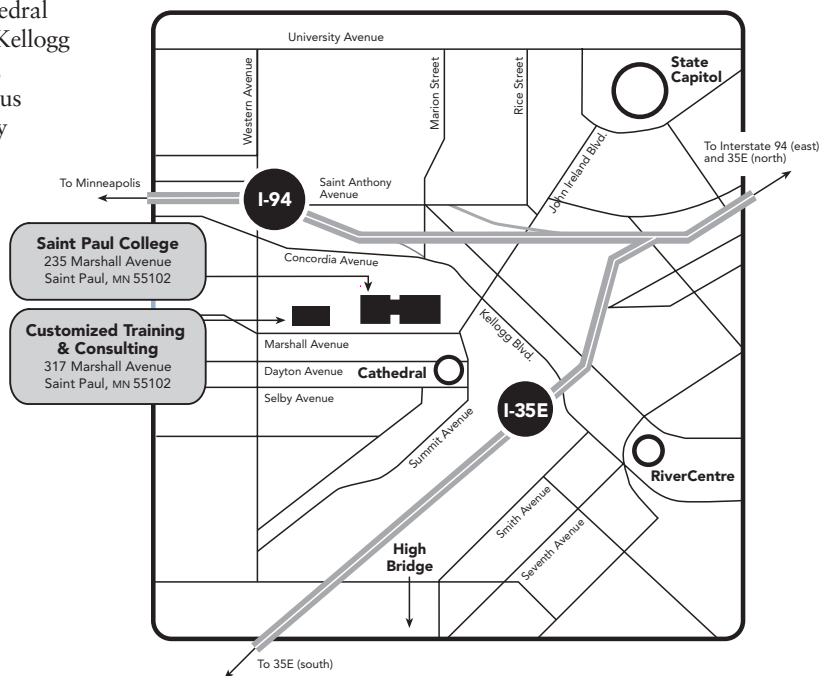
Directions

From the South (35E)

Take the Kellogg Boulevard Exit, turn left. Continue to John Ireland Boulevard, turn left at the traffic light. Continue to Marshall Avenue, turn right.

From the North (35E)
From the East (I-94W)

Take the Marion Street Exit, turn left passing over the freeway. Continue on Kellogg Boulevard to John Ireland Boulevard, turn right at the traffic light. Continue to Marshall Avenue, turn right.

From the West (I-94E)

Take the Marion Street Exit, at the top of the exit ramp take a right onto Kellogg Boulevard. Turn right at traffic light onto John Ireland Boulevard. Continue to Marshall Avenue, turn right.

Bus Information

Saint Paul College is also easy to reach by bus. Routes 12, 21, 94B and 94L service the College directly.

Other routes such as 5, 9, 10, 14, 15 and 31 drop off passengers within walking distance of the College.

Visitor Parking

Metered parking is available, as well as short-term/daily parking. The short-term/daily lot (pay upon exit) is located in the lot west of the building.

Parking Information

Parking Lots/Designated Parking Areas

Parking Hours:

Monday - Friday, 6:00am - 10:00pm
Saturday, 7:00am - 3:00pm

Visitor Parking / Short Term Parking

- Metered Visitors and Handicap Parking is located is in front of the main building. These metered spaces are for short-term visitors and handicapped parking only. (Limit 2 hours)

- Additional long term Handicap parking is available in the lot west of the College (Lot B).

- Additional long term Visitor Parking is available in the DAILY/VISITOR PARKING LOT, west of the College.

- Parking meters are monitored and enforced from 7:00am – 10:00pm, Monday through Friday, and 7:00am – 3:00pm on Saturdays.

METERED PARKING IS <u>NOT</u> FOR STUDENT, FACULTY OR STAFF USE - for any reason.

RED & GREEN LOTS / Parking Lots B, C, D:

- The Red & Green Lots are for students with Red and Green Permits ONLY.

PURPLE LOT / Faculty & Staff Lot E:

- The Purple Lot is for Faculty and Staff with Purple Permits ONLY.

- Overflow parking to Lots "C","D".

SERVICE & COLLEGE VEHICLE Lot:

- Service Lot is designated for Services Vehicle parking only. All vehicles in this areas must be marked (company name and working at the college) or they will be ticketed.

Reserved motorcycle parking:

- Located at the east end of Red Lot along the guard rail.

NO PARKING ZONES:

- Any space marked 24 Hour without a proper sticker.

- Any handicapped space without a legally displayed sticker or license plate.

- Fire lanes. To include leaving room for a minimum of two vehicles to pass at the end of each row.

- Front of any garage doors.

- Any Right of Way areas. This includes the area north of the Truck and Fabrication Shops to allow for oversized vehicle maneuvering.

- Any areas not paved or designated for parking. This includes sidewalks, curbs, and lawns.

PERMIT RATES
STUDENTS RED OR GREEN LOTS

PERMITS	1 DAY per week	2 DAYS per week	3-5 DAYS per week
FALL SEMESTER $1.50/credit plus	$17.00	$33.50	$50.00
SPRING SEMESTER $1.50/credit plus	$17.00	$33.50	$50.00
SUMMER SEMESTER $1.50/credit plus	$8.50	$17.00	$25.00

If You Receive a Citation for a Parking Violation

Payment is to be directed to the Tuition Office and requires a copy of the citation. Payment is due fifteen (15) business days from the date the citation was issued. Checks are to be made payable to Saint Paul College. If the citation is not paid within fifteen (15) business days, a $25.00 late fee will be added to the fine. You may appeal your citation within fifteen (15) business days from the date the citation was issued. Appeal forms are available at the INFORMATON DESK. The form must be filled out completely to be considered. If you fail to pay your parking citation(s), the fine(s) will be place on your student record and you will be unable to get a copy of your transcript until the fine is paid. The debt will be submitted to Minnesota Collection Enterprise for collection.

It is mandatory that all motor vehicles parked on Saint Paul College campus have a registered parking permit. Registration is considered complete when the permit is properly affixed to the vehicle being registered. A vehicle registration from the State of Minn. will be obtained on vehicles not registered, that are ticketed and the fine is not paid. A $5.00 service charge will be added to the ticket.

Notes

Saint Paul College

A Community & Technical College

235 Marshall Avenue
Saint Paul, MN 55102

For more information

If you need more information, contact us.
We will be glad to answer your questions.

Visit our Web site: www.saintpaul.edu

General information: 651.846.1600

Enrollment Services: 651.846.1555

Schedule a "Start here" information session:

651.846.1666

Start here.