

# 2011 – 2012 Catalog

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Saint Paul College reserves the right to change without notice any of the materials (information, requirements, regulations) published in this catalog. This catalog is not a contract.

Please refer to the College Web site, Course Schedule and campus postings for detailed information regarding hours of operation. Hours are subject to change.





# Welcome to Saint Paul College

## A Community & Technical College



It has been my privilege to serve as President of Saint Paul College for the past twenty years. During this time we have made many changes to the College, which include new programs, renovation of the building, increasing the size of the campus, and increasing student services. This has all been possible because the faculty, staff, and administration worked together to improve the College. We were assisted greatly by the support of hundreds of volunteers serving on program advisory committees, the General Advisory Committee and the College Foundation. The success of Saint Paul College is directly attributable to our commitment of maintaining rigorous standards, providing exception support services, and placing the students first.

Students responded to the efforts of all of these committed individuals by enrolling in unforeseen numbers in our many different programs. Just in the last ten years, student enrollment at Saint Paul College has increased by 78%! I hope you, the new student, will be as impressed with the College as our past students! We have been one of the fastest growing Colleges in the metropolitan area!

We are very proud of our recent acknowledgement by the Washington Monthly magazine that we are the #1 community college in the nation. Washington Monthly is the only national publication that assesses community colleges in its rankings. This is a remarkable accomplishment for the College and a credit to our community. This national exposure will greatly enhance the College's local stature and also the stature of you, our future graduates!

Not sure what you want to do? Visit our Career Center to compare your aptitudes with your interests and determine a career field best for you.

Wondering how to pay for College? See the helpful staff in our Power of YOU Office or our Financial Aid Office to see if you qualify for a scholarship, grant or student loan.

Not sure if your credits will transfer? Stop by our Transfer Center. They will take a look at any classes you might have taken before and tell you what university you can transfer to when you have finished your program here.

Don't have time for all-day orientations and registration sessions? Visit us once, learn how and then you can do it all online after that! Even our student orientations are online! Plus you can start and finish several of our degree programs completely online!

Don't have a high speed computer at home? We have all kinds of computer labs and a wireless campus so you can do your homework here.

Any more questions? Contact Enrollment Services and our friendly, helpful staff will be glad to help you.

Each year I have been excited about all the changes we have made at Saint Paul College and also about the new opportunities we offer to you this year. Although I am retiring from my leadership role in June of 2011, I know that many others will continue to provide you with the educational opportunities you deserve. Your new President will be committed to serving you, the student, and the College will continue its proud service to the Saint Paul area community.

I invite you to learn more about the College by exploring our Web site further or scheduling an on-campus visit. We look forward to working with you! Best wishes for success with your college plans and your personal goals. Remember... When you start here, you can go anywhere!

A handwritten signature in black ink that reads "Donovan L. Schwichtenberg". The signature is written in a cursive, flowing style.

Donovan Schwichtenberg, Ph.D.

President

# Directory of College Services

<b>Academic Divisions</b>	
Business and Computer Science	651.846.1793
Engineering and Technology	651.846.1320
Health and Service	651.846.1311
Language	651.846.1793
Liberal Arts and Sciences	651.846.1349
Transportation, Construction and Building	651.846.1320
Administrative Office	651.846.1361
Alumni Relations	651.846.1469
Assessment, Intake	651.846.1650
Bookstore	651.846.1422
Career and Placement Center	651.846.1384
Child Care Center	651.846.1581
Counseling	651.846.1383
Dean of Student Development and Services	651.846.1362
Disability Services	651.846.1547
English for Speakers of Other Languages (ESOL)	651.846.1555
Enrollment Services	651.846.1555
Financial Aid	651.846.1386
Information	651.846.1600
Library	651.846.1410
PEPNet-Midwest	651.964.1336 V/TTY
New Student Information	651.846.1666
Security	651.846.1322
Student Life	651.846.1733
Student Records and Transcripts	651.846.1515
Transfer Center	651.846.1739
Tuition Office	651.846.1395
Veterans Educational Benefits	651.846.1372

# 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 for Access, Opportunity and Success

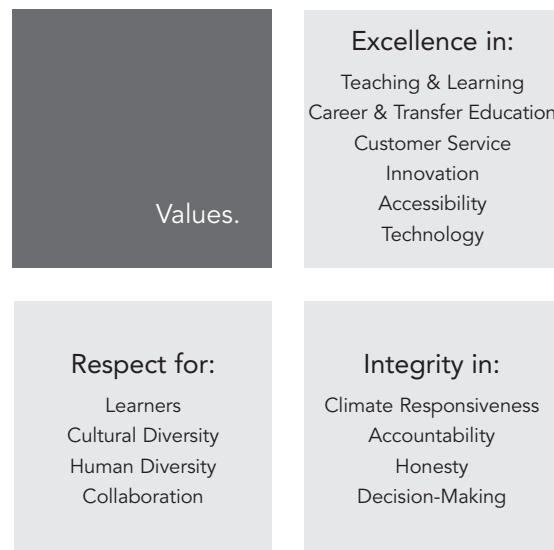
Saint Paul College is dedicated to an integrated service philosophy that focuses on learner needs.

### Organizational & Community Partnerships

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

### Financial Viability

Saint Paul College is committed to sustaining financial viability during changing economic and market conditions.



Saint Paul College—A Community & Technical College reserves the right to change without notice any information published in this catalog. This catalog is not a contract. The College makes every effort to provide the courses, programs and services outlined in this catalog. However, academic calendars and the delivery of services are subject to modification. Furthermore, course delivery methods (e.g. traditional, online and other) are subject to change without prior notice in the case of emergency or other action deemed necessary by the College.

The name of the organization is Saint Paul College—A Community & Technical College, hereinafter referred to interchangeably as “the College” in policy and procedure statements.

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

Harassment of an individual or group on the basis of 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 has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, Saint Paul College shall work to eliminate violence in all its forms. Physical contact by designated College staff members may be appropriate if necessary to avoid physical harm to persons or property.

Saint Paul College is committed to fostering an environment without discrimination and harassment. The College has a complaint process to review complaints of discrimination, harassment and sexual violence. Inquiries regarding compliance to Federal and State Laws and Statutes may be addressed to Thomas Matos, the Dean of Student Development and Services, who can be reached at 651.846.1362.

Refer to the Saint Paul College Student Handbook for important information that each student should read to assure success at the College.

### **Available in Alternate Format**

This document is available in alternative formats to individuals with disabilities by contacting Caidin Riley, Coordinator of Disability Services at 651.846.1547 or [caidin.riley@saintpaul.edu](mailto:caidin.riley@saintpaul.edu). For TTY Communication, contact the Minnesota Relay Service at 7-1-1 or 1.800.627.3529.



# General Information

Enrollment Services

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Registration

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Academic Standards

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Educational Degree Programs

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Minnesota Transfer Curriculum

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# 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 Professional accreditation by: The American Culinary Federation Education Foundation's Accrediting Commission (ACFEF), The Committee on Accreditation for Respiratory Care, the National Accrediting Agency for Clinical Laboratory Sciences and the National League for Nursing Accrediting Commission. The Practical Nursing Program is approved by the Minnesota Board of Nursing. Business programs are accredited by the Association of Collegiate Business Schools and Programs (ACBSP).

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 lifelong 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](http://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

The College sponsors a unique Alumni Association to complement the educational process. All Saint Paul College graduates are encouraged to join. Call 651.846.1469 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 Saint Paul College graduates in their search for part-time and full-time employment. This assistance is a life-long service to students and graduates.

Assistance includes:

- Listings of part-time and full-time job openings from employers who contact the College
- Access to free online career and placement system designed specifically for Saint Paul College Students and Alumni
- Internet access to additional job opportunities nationwide
- Cover letter and resume writing assistance

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 Career and Placement Center or from the College Web site at [www.saintpaul.edu/resources/careers](http://www.saintpaul.edu/resources/careers). If you would like further information on the Career and Placement Center, please contact 651.846.1384 or visit Room 1250.

## PEPNet Midwest Postsecondary Education Programs Network

The U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs, established the Midwest Center, PEPNet-Midwest, at Saint Paul College—A Community & Technical College under a five-year agreement in October of 2006. The purpose of PEPNet is to improve transition services and educational access for students who are deaf or hard of hearing, including those with co-occurring disabilities, thus enhancing educational opportunities for individuals in the following thirteen Midwestern states: Iowa, Illinois, Indiana, Kansas, Minnesota, Michigan, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin. A Coordinating Council of Model Programs addresses the outreach activities and dissemination through contracted outreach sites that are assigned by geographic area and population densities. Three sites, the University of Wisconsin – Milwaukee, Milwaukee, Wisconsin, Rockford Center for Sight and Hearing, Rockford, Illinois, and Saint Paul College, in Saint Paul, Minnesota all provide the direct contacts with each State in the Midwest Region.

PEPNet-Midwest and its outreach sites provide technical assistance and dissemination information to secondary and postsecondary institutions in order to improve existing services and to establish new services for students who are deaf. The center works primarily at an institutional level to increase the capacity of colleges, universities, and other postsecondary institutions to attract and serve deaf students. To achieve these tasks, PEPNet-Midwest utilizes interdisciplinary networks of personnel, through the Midwest region and the PEPNet consortium, with expertise in the use of technology, including web-based applications in secondary and postsecondary training efforts and service provision to students. PEPNet-Midwest plans to continue its ongoing activities, while planning greater outreach to three groups: professionals and students at a secondary level, culturally diverse deaf students, and deaf consumers with multiple disabilities.

For more information about PEPNet-Midwest, or to be placed on the mailing list, contact 651.964.1336 V/TTY, 651.221.1339 FAX. Please visit our Web site at [www.pepnet.org](http://www.pepnet.org).

## Customized Training & Continuing Education (CT/CE)

### 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 & Continuing Education*, 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 & Continuing Education 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 for 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:

- DDI (Decision Dynamics International)
- AchieveGlobal
- Lean/Flexible Manufacturing, 5S, Six Sigma
- Lean Healthcare
- Supervisory & Management Training
- Quality Initiative Training
- Organizational Needs Assessment
- Solar Technology & Installation

### Location

Customized Training & Continuing Education is located at 60 PLATO Blvd. East, Suite 150 Saint Paul 55107. Any CT/CE class can be offered at your work site or custom tailored to meet your employees' needs. Call 651.846.1800 for more information.

# Enrollment Services

## 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.

Students seeking admission to Saint Paul College who have attended another college or university and do not meet Saint Paul College's Satisfactory Academic Progress Standards must appeal for admission.

## 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 at Saint Paul College in the past, follow this application procedure:

1. Complete an *Application for Admission* online at [www.saintpaul.edu/apply](http://www.saintpaul.edu/apply).
2. There is a one time, non-refundable \$20 application fee. Saint Paul College is currently waiving the application fee.
3. Complete the Assessment in Reading, Writing, and Math or complete the English as a Second Language (ESL) Assessment if you are a nonnative 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 5 years and scored 24 or higher on the related ACT individual subscore or 550 on the SAT individual subscore, you may not have to take part or all of the placement exam. Please bring a copy of your ACT or SAT scores to the Transfer Center (Room 1365) 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 their program requires additional assessment.

Assessment requirements may be waived based on previous college experience as validated by college transcripts or determined by the Director of Enrollment Services.

## Intake Assessment

Saint Paul College and the Minnesota State Colleges and Universities system require assessment of basic academic skills. The College uses the ACCUPLACER assessment tool.

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 is 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 an individual, walk-in basis in the Assessment Center in Room 3115 and usually take from 1 1/2 to 2 1/2 hours to complete. ESL assessment scores determine ESL course 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.

Please call 651.846.1555 for group accommodation and 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 transcripts reviewed for an assessment waiver.

## Application Procedure for Transfer Students

Students seeking admission to Saint Paul College based on previous college coursework should contact the Transfer Center at [transfer.center@saintpaul.edu](mailto:transfer.center@saintpaul.edu) or 651.846.1739.

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 the 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

Students not intending to pursue an academic award may apply to the College as an undeclared student. Some classes may be limited to students admitted to a specific major or may have course prerequisites. 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. Credits 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.

## 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 want to 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 completed coursework at 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. Course test-outs taken at another College or University are not transferable to Saint Paul College.

Students interested in receiving transfer credit must submit official transcripts to the Student Records Office. Upon admission to the College, transcripts will automatically be reviewed to determine transferable credits. 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. Students retain the right to appeal the non-acceptance of credits.

## 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 college-level credits for students transferring with at least 12 college-level credits from another Minnesota State Colleges and Universities institution or 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.org](http://www.collegeboard.org) for testing locations, fees and exam information.

### 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 subsidiary level exams at the higher level with a score of 5 or higher.

### International Transcripts

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 Transcript System (AARTS) 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 the 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. The DSST 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.

## 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 will help them succeed in programs.

## English for Speakers of Other Languages (ESOL)

The purpose of English for Speakers of Other Languages (ESOL) coursework is to assist limited-English speakers from different ethnic and cultural backgrounds to learn English and increase their chances of success at Saint Paul College. The faculty of this area can communicate with several different language groups. This program offers a variety of support

services and specially tailored classes to meet the unique needs of ESOL students.

## Immunization Requirements

Minnesota Law (M.S. 135A.14) requires that all students born after 1956 and enrolled in a postsecondary educational institution be immunized against measles, rubella, mumps and diphtheria, and tetanus after 12 months of age and 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 this 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* information is located on the Web site. This schedule contains a listing of classes that are available each academic term and is available approximately six weeks before the beginning of each term. The Course Schedule lists the courses, number of credits, class times, instructors' names, room numbers and prerequisites, whenever possible. Registration dates and guidelines are also listed on the College Web site.

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

Class sizes are limited. Closed classes 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 provided to new students when they are accepted for admission. Information is posted on the Web site for returning students. Not all courses listed in the *College Catalog* are offered every term.

Students who have a financial hold at any Minnesota State College or University may not be allowed to enroll in courses at Saint Paul College until the financial hold has been removed.

A Registration Schedule is published for each term and indicates assigned dates and times for registration. New students can register for classes following orientation sessions. Returning students are encouraged to consult with an advisor prior to registration.

## Registration Process for New and Returning Students

1. Select courses, noting course ID numbers.
2. Login to your student account and register online.
3. Pay tuition and fees online or at the tuition office. A deferment to hold your classes can be received by having an ISIR for financial aid, a completed third party authorization, a Nelnet Payment Plan, a certified student loan, or a scholarship. Refer to the Saint Paul College Tuition Office website for the full detail on your payment/deferment options.

4. Purchase books and supplies and attend classes. If purchasing books and supplies with financial aid you must complete a FA voucher request which can be found on the Saint Paul College Tuition Office website. Loans need to be fully certified to be used on a voucher. Refer to the Financial Aid Book Voucher Process link found on the Saint Paul College Tuition Office webpage for detailed information and important dates. If using a third party agency voucher, a completed third party authorization must be received by the tuition office. The cost of books can be found on the Saint Paul College Bookstore website.

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### HELPFUL HINT

Pay for books with your own money and buy them prior to the start of class either at the bookstore or online at [www.saintpaulcollegebookstore.com](http://www.saintpaulcollegebookstore.com). This will help to avoid the long lines at the Bookstore in the first week of the the semester.

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## 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).

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 must withdraw from courses online. No refund is permitted after the 5th day. Courses from which a student officially withdraws will be assigned the letter grade "W" (withdraw). Students who fail to withdraw from a course but stop attending before the withdraw deadline may be assigned a grade of FW. Refer to the current *Course Schedule* for details.

Students who do not plan to attend class during the first week of classes (or do not plan to log on for the first day of an online class) need to make arrangements for **all absences** in advance with their instructor. Students who miss class the first week without making prior arrangements with their instructor may be assigned a grade of FN. Students must drop courses they do not intend to attend before the end of the add/drop period.



## Satisfactory Academic Progress Guidelines

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.

Saint Paul College has a Satisfactory Academic Progress policy which requires degree seeking students, upon registering for 6 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, F, W, I, or P. If these requirements are not met, students will be placed on academic probation.

Students seeking admission to Saint Paul College who have attended another college or university and do not meet Saint Paul College's Satisfactory Academic Progress Standards must appeal for admission.

First term students earning grades of all F's, FN's and/or FW's may be suspended for at least two major terms (Fall and Spring) following the unsuccessful term.

### Probation

Students placed on Academic probation will have a registration hold placed on their academic record which will prevent them from registering in future terms.

Students must contact a Retention Specialist to develop an academic plan and to have the hold released. The Retention Coordinators are located in the Office of Enrollment Services.

Students placed on probation for a deficient GPA are required to enroll in CSCR course(s). Students, who do not register for, withdraw from, or do not successfully complete CSCR course(s) as assigned by Retention Specialist may be suspended indefinitely.

While on probation a student is required to achieve a term grade point average of 2.5 or higher and maintain a term completion rate of 100%. The student will remain on probation until a cumulative grade point average of 2.0 or higher and a cumulative completion rate of 67% or higher is achieved.

### Academic Suspension

Students who fail to meet satisfactory academic progress standards in their probationary period by not earning a *term* GPA of at least a 2.5 and a *term* completion rate of 100% will be suspended for at least two major terms (fall and spring). All students placed on suspension must appeal to be reinstated.

### Appealing Academic Suspension

*Appealing due to catastrophic extenuating circumstances.* Students who believe they failed to achieve satisfactory academic progress due to catastrophic extenuating

circumstances may file an appeal to their suspension prior to taking the required two major terms off. However, students must be able to provide documentation supporting their claim of catastrophic extenuating circumstances interfering with their ability to be successful in school.

*Appealing for reinstatement after serving the required two terms.* Students who have served their suspension period must appeal for reinstatement by writing a letter stating the changes that have occurred that will allow them to be successful in school along with submitting the required suspension appeal paperwork.

The Suspension Appeal packet can be obtained in the Office of Enrollment Services or via the Saint Paul College Web site.

*Readmission after a Suspension Period.* Students whose Suspension Appeals are approved must develop an academic plan with a Retention Coordinator. They must enroll only for the classes approved on their academic reinstatement course plan, which may include CSCR course(s). Changes to the schedule must be approved by the Associate Dean of Student Development and Services. Students who do not register for, withdraw from or do not successfully complete, CSCR course(s) may be suspended indefinitely.

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 indefinitely.

### 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. The student cannot have been enrolled at Saint Paul College for a minimum of two 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, F's, FN's and FW's can be forgiven. If more than one term is forgiven, they must be consecutive terms. A maximum of two 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 calendar year after completing the 12 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 can be released.

An official transcript is issued, for a fee, upon written request or 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. There is an additional fee for next day service, if requested.

## 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 beginning with the first credit. The fee is also assessed during the summer term. The Minnesota State College Student Association also assesses a per-credit fee each term.

### Technology Fee

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

All fees are subject to change.

### Tuition Payment

Tuition and fees are due by the posted date or the student may be dropped from their classes. Payments can be made online or at the Tuition Office. To retain classes, the Tuition Office must either have full payment, a completed *Nelnet Payment Plan* application, received a *Financial Aid Award ISIR*, a certified student loan, a scholarship or a completed third party authorization on file for the current term. Refer to the *Saint Paul College Tuition Office website for—Tuition & Fees Payment Options* for more information. Any tuition and fee balance not covered by or created as a

result of the loss or change to financial aid or other deferments is the student's responsibility to pay.

Students who are qualified senior citizens (over 66) 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 with the second class session on a space-available basis.

### 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.

### Refunds for Total Withdrawal from College

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

Withdrawal Period—	Refund
<b>Fall &amp; Spring Terms</b>	
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%
<b>Withdrawal Period—</b>	
<b>Summer/Other Terms</b>	<b>Refund</b>
<i>(At least 3 weeks but less than 10 weeks in length)</i>	
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.

## Waivers

Saint Paul College may waive amounts due to the College for the following reasons: employee benefits provided by bargaining agreement, death of a student, medical reasons, college error, employment related condition, significant personal circumstances, student leader stipends, course conditions, natural disasters, ward of state or other situations beyond the control of the College. The College cannot waive the MSCSA student association fee. Contact the Student Records Office to request a Tuition Waiver Form if you feel you are entitled to a waiver.

# Financial Aid

## General Information

Financial aid is money that is available to help students finance the cost of their 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 declare a major and be admitted to a program at Saint Paul 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, and an allowance for room and board, books, supplies, transportation and personal expenses.
- 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 \$976 per year up to the federally legislated maximum for a fulltime student. Part-time awards are prorated based upon enrollment. Pell Grant recipients must be enrolled in an eligible program.

### 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 State Grant

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

### 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.

### Minnesota Achieve Scholarship

The Minnesota Achieve Scholarship provides financial assistance to Minnesota resident students who complete a qualifying secondary school program and are attending a Minnesota institution. Students must graduate from high school after January 1, 2008, be a student from a family with an adjusted gross income of less than \$75,000 for the previous tax year and apply no later than 30 days after the term starts.

## 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 at least 6 credits to qualify for work-study.

## Loans

Loans are financial aid that must be paid back. The student must complete online Entry Loan Counseling and be registered for 6 credits. Need based and non-need based loans are available.

### Federal Stafford Loan

Whether or not students qualify for a grant, they can get help to meet their educational expenses by borrowing money through the Stafford Student Loan program or one of several available loan programs. Depending upon eligibility, first year students may borrow up to \$3,500 per academic year and second year students, up to \$4,500.

### 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.

### Private Educational Loans

Private educational loans, also known as Alternative Educational Loans, may bridge the gap between government programs and the cost of attendance. Eligibility is often based on your credit score. Please contact the Financial Aid Office for more information.

## Other Sources of Financial Assistance

Several government and private agencies provide financial assistance to eligible students. Contact the local office of the following agencies for consideration.

- Division of Rehabilitation Services (DRS/DVR) [www.deed.state.mn.us/rehab](http://www.deed.state.mn.us/rehab)
- Minnesota Indian Scholarship Program [www.ohe.state.mn.us](http://www.ohe.state.mn.us)
- Veteran Benefits (VA) [www.vba.va.gov](http://www.vba.va.gov)
- Minnesota Department of Veterans' Affairs [www.mymilitary.education.org](http://www.mymilitary.education.org)
- Minnesota Educational Assistance for War Orphans [www.ohe.state.mn.us](http://www.ohe.state.mn.us)
- Minnesota Migrant Council (MMC)
- Services for the Blind (SSB) [www.mnssb.org](http://www.mnssb.org)
- Other public and Private Scholarships—check with a high school counselor, the public library and the following Web sites:
- [www.fastweb.com](http://www.fastweb.com)
- [www.finaid.org](http://www.finaid.org)
- [www.going2college.org](http://www.going2college.org)
- [www.fastaid.com](http://www.fastaid.com)
- [www.college-scholarships.com](http://www.college-scholarships.com)

## How to Apply for Financial Aid

1. Apply for admission to Saint Paul College. Students must declare a major and be enrolled in a program leading to a degree, diploma or eligible certificate to qualify 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 at the end of the drop/add deadline.
2. *Fill out the Free Application for Federal Student Aid (FAFSA)*. It is recommended you apply electronically through the U.S. Department of Education's Web site at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). 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. An Institutional Student Information Record (ISIR) should arrive in 2 weeks.
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 ISIR 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 email will be sent indicating the Award Letter is accessible at the College's Web site through the student's account.
5. Carefully read the award letter for 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

### Financial Aid Verification

Saint Paul College verifies data information of students selected by the Central Processing System (CPS) or selected by Saint Paul College. Students selected for Verification will be notified by mail of the required documentation to complete the verification process. All students are required to complete a Verification Worksheet and appropriate income information.

Students should submit all required documentation within 45 days of the date on the letter. The financial aid process will not continue until the required documentation is received. Not submitting the requested documentation within 45 days, without explanation, may result in loss of eligibility for the current academic year.

Once all required documentation has been received, students should allow a minimum 14 business days for the verification process to be completed. If the FAFSA data is correct, the Financial Aid process will continue toward a complete and accurate file, at which time the student's Financial Aid will be packaged resulting in an Award Letter that can be viewed online at [www.saintpaul.edu](http://www.saintpaul.edu) under the student's account. Any FAFSA discrepancies found as a result of the verification process will be corrected by the Financial Aid Office and electronically submitted to the central processor.

Any cases of suspected fraud, misreported information, or altered documentation to fraudulently obtain federal funds will be discussed with Saint Paul College administration and referred to the Office of Inspector General of the Department of Education via Minnesota State Colleges and Universities.

### Withdrawals

If you withdraw from Saint Paul College by the drop/add deadline, 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 drop/add deadline, 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 before completing 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, approximately \$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
- Academic Competitiveness 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 refunds (not to exceed the amount of the MNCHE program payment the student initially received for the term), must be returned to the State.

## 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 Agreements/Enrollment at Other Schools

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 obtained at the Financial Aid Office. They must be completed and submitted with an attached registration form from the host school, to the Financial Aid Office by the drop/add deadline. 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 provided the following have been met by the posted tuition deadline for the term.

1. Student has received an Award Letter with financial aid eligibility equal to or greater than the tuition/fee charge. (Loan only eligibility requires a submitted Promissory Note.)

OR

2. An electronic Institutional Students Information Record (ISIR) is received resulting from submission of a FAFSA.

**Any tuition/fee balance not covered by Financial Aid is the student's payment responsibility.**

## 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, they will first be given a probationary term. If the student fails to meet either of the satisfactory academic progress standards during the probationary term, they will be suspended from financial aid. Students who have been suspended from financial aid due to these standards will be reinstated for financial aid 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, or online at the Financial Aid section of [www.saintpaul.edu/FinancialAid](http://www.saintpaul.edu/FinancialAid).

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. Transfer credits do not effect the student's GPA.

### Quantitative Standard

Students are required to complete a minimum of 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. Transfer credits do not effect cumulative completion rate.

### 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

Academic progress is evaluated at the end of each semester or term. A student who fails to meet cumulative progress requirements will be placed on financial aid probation or suspension. Academic progress will be monitored as follows:

1. Satisfactory Academic Progress monitoring begins with the first credit. Upon six (6) credits of enrollment, all students with registered credits during a term will be evaluated at the end of the term.
2. Any student who fails to meet cumulative GPA and completion rate satisfactory academic progress requirements for one term will be placed on probation for the subsequent term and will be notified by mail. Financial aid may be received during a probation status. First term students earning grades of all F's, FN's and/or FW's may be suspended for at least two major terms (Fall and Spring) following the unsuccessful term.
3. A student on probation who earns a 2.5 term GPA and/or 100% term completion rate, but fails to meet cumulative satisfactory academic progress requirements for a consecutive term will remain at a probation status and therefore eligible for financial aid.

4. A student on probation who fails to meet the term standards identified in #3 above, and does not meet the required cumulative standards will be suspended from financial aid and notified by mail.
5. Upon evaluation, if Saint Paul College determines that it is not possible for a student to meet the minimum cumulative standards at the completion of a degree/diploma or certificate for their declared major, the student will be suspended from financial aid and will be notified by mail.
6. A student who has exceeded the maximum time frame will be placed on suspension from financial aid and notified by mail.

### Suspension for Extraordinary Circumstances

Saint Paul College may immediately suspend a student in certain circumstances, such as:

1. A student who was previously suspended and whose academic performance falls below acceptable levels during a subsequent term
2. A student who demonstrates an attendance pattern that abuses the receipt of financial aid
3. A student who is on financial aid suspension at another school

### Financial Aid Appeals Procedure

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 which may include, but shall not be limited to, death in the family, injury or illness.

### Appeal Process

Appeals must be submitted in writing on the Appeals Form available online in the Financial Aid section at [www.saintpaul.edu/FinancialAid](http://www.saintpaul.edu/FinancialAid) or in the Financial Aid Office. The appeal must include a thorough explanation of the circumstances that affected academic progress. If applicable, the appeal must include supporting documentation beyond the written explanation. Appeals must be submitted to the Financial Aid Office to be evaluated for an approval or denial. A written decision on the appeal will be provided to the student.

If the appeal is approved, the student may receive financial aid for the next term. Provided a 2.5 GPA and a 100% completion rate is achieved for the succeeding term, the student will remain on probation. If these requirements are not met for the term, or the student does not meet the cumulative progress standards, the student will go to a suspension status for the next term of enrollment for financial aid eligibility. Denied appeals may be resubmitted for consideration by an Appeal Committee which will result in a final determination.

**Reinstatement**

Students who are placed on suspension for financial aid but are allowed to register after staying out for one term will be reinstated for financial aid after achieving a cumulative 2.0 GPA and 67% completion rate or after receiving an approved appeal.

**Treatment of Grades**

Please see the Academic Standards section of the school catalog.

**Academic Amnesty/Forgiveness**

Students who are on Financial Aid Suspension who request Academic Forgiveness for previous enrollment due to an extenuating circumstance must follow the appeal process.

**Audited and Test Out Courses**

Courses taken by Audit or Test Out are not eligible for Financial Aid.

**Consortium Credits**

Credits for which financial aid is disbursed under a consortium agreement will be recorded as consortium agreement credits and will be included in the calculation of Satisfactory Academic Progress for financial aid.

**College Readiness and ESOL Courses**

College Readiness and ESOL courses will be included in the cumulative GPA and completion rate. ESOL courses and up to 30 credits of College Readiness coursework will be excluded from the 150% maximum time frame calculation.

**Repeated Courses**

Courses may be repeated for financial aid eligibility for “F” grades only or if program requirements require a higher grade. The cumulative GPA will use the highest grade achieved. Courses repeated a third time require registration permission from the Academic Dean. The cumulative completion rate includes all repeated courses.

**Transfer Credits**

Credits taken at previous schools accepted for current program requirements will be included in the 150% maximum time frame.

**Withdrawals**

All coursework designated with a withdrawal is calculated in the cumulative completion rate and maximum timeframe.

**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.

## 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 1365. 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 Web site at [www.saintpaul.edu/academics/transfer](http://www.saintpaul.edu/academics/transfer).

### Academic Advising

Program Faculty Advisors assist you 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 personal counselor is available to assist students with short-term 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 1339 and the counselor is available on an appointment or emergency walk-in basis. For assistance, call 651.846.1383.

### Retention Specialists

Retention Specialists provide early academic intervention for students exhibiting at-risk behaviors. The Retention Specialists work with students who are in College Readiness Program (CRP) courses to plan their academic careers. The Retention Specialists monitor Satisfactory Academic Progress. Students on academic probation are required to work with a Retention Specialist to develop an academic success plan.

Students seeking registration guidance, assistance with time management or who have concerns about being a successful college student are encouraged to meet with a Retention Specialist. Appointments can be made by call 651.846.1357 or emailing [retention@saintpaul.edu](mailto:retention@saintpaul.edu).

### Support Services for ESOL Students

In addition to general services at the College, English for Speakers of Other Languages (ESOL) students have access to services that meet their specialized needs. An ESOL 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 ESOL 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. ESOL students also have access to the Language Lab where they can receive additional assistance from ESOL faculty in building their English skills.

For more information on services available to ESOL 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 dependents of war veterans who have training needs and who are entitled to participate in federal financial assistance programs. Visit the VA Web site for more information on eligibility at [www.gibill.va.gov](http://www.gibill.va.gov). A College representative is available to assist veterans with submitting enrollment certifications for veterans' benefits after you have registered for classes. For more information, please contact the Registrar Katie Yep at 651.846.1372.

Room 3340 has been designated as the Saint Paul College Veteran's Center. The Veteran Center is for use by student, faculty and staff who are veterans or enrolled dependents of veterans. The Center contains computers, a sitting area for visiting/studying and veteran resources. The Veteran Center is staffed during hours of operation. Hours are posted on the Veterans Center entrance and posted on the CastNet system monitors around the campus hallways.

### Disability Services

Saint Paul College is committed to providing equal access to educational opportunities for all students, including those with disabilities. The Director of Disabilities Services, Caidin Riley, 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, Caidin Riley, 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 inter-agency coordination. The Director of Disability Services, Caidin Riley, is located in Enrollment Services, in Room 1302, and can be reached at 651.846.1547.

### 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 states the specific diagnosed disability or disabilities
- Describes the tests performed in making the diagnosis
- Describes the functional limitations resulting from the disability or disabilities
- Be current (less than 3 years old)
- Describes the specific accommodation(s) requested
- Adequately supports each of the requested accommodations
- Be typed or printed on official letterhead, signed by an evaluator qualified to make the diagnosis, and include information about the evaluator's 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 (IEPs) 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. Documents provided to the College will not be returned.

## 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, Caidin Riley, 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 by 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 Caidin Riley, Director of Disability Services, 651.846.1547/1548 TTY. The Office of Disability Services (Room 1302) is located in the Office of Enrollment Services Room 1300. If a student is having 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 their interests, skills and goals.

### Career Counseling

Assistance with career exploration and career decision-making is available through the Career and Placement Center. One-to-one assistance is available by appointment. Call the Career and Placement Center (Room 1250) at 651.846.1384 to schedule an appointment.

### Career Classes

College Success Strategies and Career Resources (CSCR 1405) and Choosing Your Career Path (CSCR 1403) are credit career and college success courses offered each semester. These courses are for students who want to gain knowledge of career resources and the career planning process. These courses also provide 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](http://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

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.

### City View Dining and Catering

The City View Cafeteria is open Fall and Spring Semesters from 7:00am to 7:00pm Monday through Thursday, and 7:00am to 2:00pm on Fridays.

Summer Semester the hours are 7:00am – 2:30pm Monday through Thursday, and 7:00am to 1:30pm on Fridays.

Breakfast: 7:00am – 10:00am

Lunch: 10:45am – 1:00pm

Dinner: 4:00pm – 6:00pm (no dinner served summer semester)

Snacks and Beverages are served throughout the day.

The Café is closed during Holiday and Semester breaks and when school is not in session. City View is a full service caterer for meetings, weddings and other special events.

Contact the Catering office at 651.846.1593 for further information.

## Student Lounges

City View Commons is available to students to dine, study, or just meet friends. Lounge areas are also located in the College's skyway and on the fourth floor.

## Parking Registration and Fees

All Saint Paul College students who park on the College campus are required pay for parking. Saint Paul College has a parking access system that allows students, faculty, staff and visitors to enter the parking lot by using a programmed parking access card that can be picked up at the tuition office by obtaining a short-term parking access ticket at the entrance that can be paid for when exiting the parking lot. The parking lot is not a public parking facility. There is no daily public parking available to the general public unless it involves business on the campus. Anyone operating or parking a vehicle on campus is responsible for being familiar with and complying with all traffic and parking regulations. The purchase of a parking access card does not guarantee space availability. The vehicle operator is responsible for finding a legal parking space. Please refer to the last page of this catalog or the Student Handbook for complete information on the College's Parking Policy.

## Campus Public Safety

Evening escort services are available for students. The Campus Public Safety 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 Public Safety and the Campus Security and 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](http://www.metrotransit.org).

## Health Services

Saint Paul College provides first-aid kits with procedures 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 Public Safety at 651.846.1322.

## Health Insurance

All students are strongly encouraged to have health insurance. 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 Office of Enrollment Services, Room 1300.

Students enrolled in the following programs must have health insurance as required by the clinical facility agreement: Practical Nursing, Respiratory Therapist, Medical Laboratory Technician, and Health Unit Coordinator. Students may show proof of coverage or purchase the student insurance plan noted above.

## Housing

Saint Paul College does not provide residence hall facilities for its students. Students can obtain information about available housing from area newspapers and other community publications. The College assumes no responsibility for housing information or housing referrals that appear in those publications.

## Lockers

Lockers are available for rent for student's use on a first come first serve basis. The non-refundable Locker fee is paid at the Tuition Office.

All lockers must be cleaned out at the end of the spring semester. Items left in lockers will be disposed of after spring semester each year.

## Lost and Found

Lost and found items may be turned in to the 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 front desk.

## Student Identification Cards

To obtain Saint Paul College identification (ID) card, student must be registered for courses and provide an official state or Federal issued photo identification. This College ID card is valid during your enrollment or five years. There is a \$10 replacement cost for lost, stolen, or damaged card.

Saint Paul College Student ID must have a full face image. A full face image is one where the face is not covered. A head covering is acceptable so long as it does not cover the student's face.

The Photo ID office is located inside the Library (Room 1260) and the operation hours for each semester are posted on the CastNet system monitors around the campus hallways. For more information, please contact the IT department at 651.846.1440.

## Student E-mail Accounts

All students have are required to activate and maintain a College email account through the Student Portal System. E-mail is the official communication mode for the College.

# Student Life

The Office of Student Life offers a variety of social, wellness, educational, cultural events and programs to enhance the student experience. In conjunction with a student's classroom learning, these extracurricular activities serve to meet the diverse needs and interests of the student body. In addition, Student Life also encourages community and leadership involvement through participation in student clubs and organizations, campus events, activities and Student Senate.

## Student Organizations

Student organizations at Saint Paul College are those associations who have a state, regional or national affiliation, have 40 or more enrolled student members and who have actively existed on campus for at least three consecutive years. Student Senate, SkillsUSA and Phi Theta Kappa (PTK) are the three Student Organizations currently recognized by Saint Paul College.

### Phi Theta Kappa (PTK)

PTK is the international honor society of the two year college. There are requirements for eligibility including (but limited to) being enrolled in a regionally accredited institution offering an associate degree program; completing at least 12 credits of coursework that may be applied to an associate degree; and obtaining a cumulative grade point average of 3.5. Eligible members

will receive an invitation to join PTK via their Saint Paul College email account from PTK and the Saint Paul College President.

### SkillsUSA

This organization is established for students to provide quality education experiences in leadership, teamwork, citizenship and character development. Students participate in a variety of social, community service and educational opportunities. Saint Paul College students have been represented at local, state, and national competition. Students compete in a wide range of areas that cover almost every discipline and program at Saint Paul College.

### Student Senate/Student Government

The Student Senate is the official representative of the student body at Saint Paul College.

The purpose of the Student Senate is to work to improve the quality of student life and education at Saint Paul College. As a liaison to the administration and faculty, senate represents student ideas, concerns and issues at Saint Paul College. Through its participation with the Minnesota Sate College Student Association, the Student Senate also has a voice in issues and concerns at the state level. Participation in the organization is an excellent opportunity to engage in the political process, become acquainted with the College system and its resources, and develop leadership skills. Opportunities for involvement include attending regularly scheduled General Assembly meetings or Senate/Student Life sponsored activities, joining a committee, or running for office. Student Senate is also responsible for the recognition and funding of campus clubs and organization. At this time we have academic, ethnic and special interest organizations active on campus. Each semester a student involvement fair is held to provide students with the opportunity to learn about and join the clubs and organizations offered at Saint Paul College.

Students have the opportunity to start a new club and are encouraged to do so by stopping into the Student Life/Student Senate Office in Room 1170. Currently the following student clubs are recognized at Saint Paul College:

- American Sign Language Club
- Asian Student Association
- Environmental Action Society
- Health and Occupational Sciences Association
- PRISM Campus Alliance
- Respiratory Care Club

## 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

This organization is established 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 is establishing a unique Alumni Association to complement the educational process. All Saint Paul College graduates are encouraged to join. Call 651.846.1469 for further information.

# Academic Resource Centers

## Academic Support Center

The Academic Support Center offers all current students free walk-in peer tutoring for a wide range of subjects that include Algebra, American Sign Language, Anatomy & Physiology, Biology, Chemistry, Computer Basics, English, English as a Second Language, History, Math Fundamentals, Microsoft Office, Nutrition, Psychology, Reading, Speech, Study Skills and Writing. Please visit our Web page [www.saintpaul.edu/AcademicSupport](http://www.saintpaul.edu/AcademicSupport) for the available days and hours for specific subjects.

# Library

## Mission

The Saint Paul 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 includes 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 access 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 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.

## 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 7:15am to 8:00pm Monday through Thursday and 7:15am 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. For further information call: 651.846.1410.

## 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 3225 and 3215. 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.

## 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. Technology and its application allow expanded access to educational opportunities that may not be otherwise possible. The current course management system is Desire2Learn (D2L), and the College offers a variety of orientation opportunities to help students get started online. Additional information may be found online at [www.saintpaul.edu](http://www.saintpaul.edu).

## Bookstore (Textbook) 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, campus postings, or call 651.846.1422 for the Bookstore hours.

### Textbook Costs:

To estimate textbook expenses in advance, please use the Saint Paul College Bookstore Web site, [www.saintpaulcollegebookstore.com](http://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. The same process can be used for most required kits and supply items.

### Textbook Orders/Reservations:

Students may also order or reserve their textbooks online at the following Web site: [www.saintpaulcollegebookstore.com](http://www.saintpaulcollegebookstore.com). Students who reserve books online can pick them up at the bookstore and pay by credit card, cash, personal check or book voucher (during the voucher period). Students should printout their reservation confirmation to bring along when picking up the books.

### Textbook Refunds and Buy-Back Policy:

Full refunds for most textbooks are given within five business days of purchase or within 5 days after the start of the semester, whichever is later. New textbooks must be completely unmarked, free from creases, and in MINT, brand new saleable condition. Textbook purchases with supplements & discs must be returned complete & unopened. Wrapped textbooks must be returned in the original cellophane. An original sales receipt is necessary to return or exchange textbooks. Your fee statement may also be required. Saint Paul College Course Packets are not returnable. Because of the length of NAST classes and other short length classes, students may return these course materials within 3 days from the date of purchase. All kits including but not exempted to (Cosmetology, Esthetics, Nursing, & Electronics), Flash Drives, Calculators, MTC Bus Cards, and WebAssign student access codes are not returnable. Textbooks returned prior to the fifth day that are not in new condition will be refunded at current used book pricing. After the fifth day, students will be encouraged to sell their books at the Textbook Buy-Back. 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. See the Web site for additional refund information. [www.saintpaulcollegebookstore.com](http://www.saintpaulcollegebookstore.com)

# Rights and Responsibilities

## Academic Integrity Policy

Saint Paul 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 online 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 Colleges and Universities 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 online 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 or reduce the requirements of civil or criminal laws.

The College has established a Code of Student Conduct that details procedures for the administration of Student Conduct 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](http://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, 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, formal or informal, verbal or written, regarding 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 online 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.

### College Communication via E-mail

E-mail is the official means of communication at Saint Paul College. All students enrolled at the College must initiate their Saint Paul College email address and check their College email on a regular basis. Students are responsible for reading and responding, when called for,

to all announcements, requests and other College communications sent via Saint Paul College email. New students will have the opportunity to initiate their College email following orientation and prior to registration.

## 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
I	0
FN = Failure for Non Attendance	0
FW = Failure due to Unofficial Withdraw	0
P = Pass	0
AU = Audit	0
W = Withdraw	0

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
BTEC 1410	3	F	0
BTEC 1418	3	C	6
BTEC 1435	3	P	0
<b>Total:</b>	17		34
<b>GPA = 34 / 17 = 2.0</b>			

### Grade Report

End-of-term grade reports are available online approximately 10 days after the term ends at [www.saintpaul.edu](http://www.saintpaul.edu).

### Dean's List

Once a student is admitted to their selected program and has completed 12 credits with a cumulative grade point average of 3.5 or higher and a 100% completion rate they will be placed on the Dean's list and sent a letter of recognition from the Dean of their program. A notation will be made on the student's transcript to indicate this achievement.

### College Readiness Program High Achievement Recognition

Students who are in the College Readiness Program and have completed 9 credits with a cumulative grade point average of 3.5 or higher and a 100% completion rate will receive a letter of recognition for their achievements from the Dean of Student Development and Services. A notation will be made on the student's transcript to indicate this achievement.

### Satisfactory Academic Progress Standards

It is the responsibility of the student to maintain a cumulative grade point average (GPA) of 2.0 and a course completion rate of at least 67% of attempted credits. Once a student has accumulated 6 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, or in some cases suspended. 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 GPA in program required courses is a requisite for graduation.

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

### Incomplete Grades

Illness or other unforeseen emergencies that prevent 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 a student has received an extension period to complete work of a course, they will be temporarily assigned the grade of incomplete "I". If the student does 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 for students who have not completed their program of study. The extension period starts at the end of the current semester and may not exceed eight weeks. For students who are completing their program of study in the Spring Semester, incomplete grades must be submitted by June 1st.

If a student receives 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 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

You 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 and only one grade will count towards the GPA. The highest grade will be used to compute the grade point average (GPA).

If you request to repeat a course a third time, permission from the appropriate academic dean is required by submitting the Request for Third Attempt form available from the Office of Enrollment Services. If permission is not acquired prior to registering, you may be deregistered from the class you are repeating with a grade of "W" if it is after the drop date.

Credit by Exam and independent studies are not acceptable means of earning credits for a failed course.

Veterans' benefits are not payable for repeating courses which, based upon school standards, have previously been successfully completed. Courses which have not been successfully completed include those for which a grade ("F" or the equivalent) was assigned and those for which a grade below the required minimum was assigned ("D" assigned when academic regulations pertaining to the course or program require at least "C").

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

### Maximum Credit Load

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

Guidelines for exceeding the limit are as follows: the student has compiled at least a 2.75 GPA at the College and has accumulated 20 credits; a student transfers in with a 3.0 GPA and an accumulation of 20 credits; 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 non-refundable 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 or veterans' benefits.

Applicants for Credit by Exam must contact the Records 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. Students awarded Credit by Exam are responsible for dropping the corresponding course within the drop/add period.

### 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; with a GPA of 2.0 or higher

- complete the Request for Graduation Award online at [www.saintpaul.edu/GraduationApplication](http://www.saintpaul.edu/GraduationApplication) or at 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 or 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 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 have been in attendance during the catalog year selected.

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 review educational plans upon re-enrolling at the College.

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 submit a letter of formal request stating the exact nature of the requested appeal. Letters should include appropriate documentation. Letters should be submitted to the Student Records Office.

# Educational Degree Programs

## Liberal Arts and Sciences

### Associate in Arts Degree (AA)

The Associate in Arts degree is awarded for successful completion of a program of 60 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 60 earned college-level credits (40 MnTC credits and 20 additional MnTC and/or pre-major elective credits)
- A grade of "C" or better in ENGL 1711
- Cumulative GPA of 2.0
- MnTC GPA of 2.0
- Meet Saint Paul College residency requirement of 20 credits. This 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 or 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	20 credits
<b>Total Requirements</b>	<b>60 credits</b>

#### 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)

<b>MnTC Goal 1: Communication</b>	<b>9 credits</b>
ENGL 1711 Composition 1	4 credits
ENGL 1712 Composition 2	2 credits
SPCH XXXX	3 credits
One eligible course.	
<b>MnTC Goal 2: Critical Thinking</b>	
Fulfilled when 10 goal areas (40 credits) are completed	
<b>MnTC Goal 3: Natural Sciences</b>	<b>7 credits</b>
Minimum of two courses from two different disciplines, one of which must be a lab course.	
<b>MnTC Goal 4: Mathematical/Logical Reasoning</b>	<b>3 credits</b>
Minimum of one course. (Courses must be numbered between 1700-1799 or 2700-2799)	
<b>MnTC Goal 5: History and the Social and Behavioral Sciences</b>	<b>9 credits</b>
Minimum of three courses from three different disciplines.	
<b>MnTC Goal 6: Humanities and Fine Arts</b>	<b>9 credits</b>
Minimum of three courses from three different disciplines.	
<b>MnTC Goal 7: Human Diversity</b>	
One eligible course.	
<b>MnTC Goal 8: Global Perspective</b>	
One eligible course.	
<b>MnTC Goal 9: Ethic and Civil Responsibility</b>	
One eligible course.	
<b>MnTC Goal 10: People and the Environment</b>	
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 (AS)

The Associate in Science (AS) degree is awarded for successful completion of a program of 60 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 a Transfer Specialist and refer to the *Transfer Articulation Agreements Table* for specific information.

### AS Degree Programs

- Biomedical Engineering Technology
- Biotechnology
- Business Management
- Chemical Technology
- Child Development Careers
- Child Development Careers ASL
- Computer Graphics and Visualization
- Computer Network Engineering Specialist
- Computer Programming
- Computer Science
- Management Information Systems
- Pre-Engineering

### General Requirements for the AS degree:

- 60 earned college-level credits (a minimum of 30 credits from MnTC courses)
- Cumulative GPA of 2.0
- Meet Saint Paul College residency requirement of 20 credits. This 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 or the University of Minnesota. For specific course requirements, see the individual program descriptions, located in Enrollment Services and the Transfer Center, or speak with your 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 a Speech course from Goal 1. . . . . 7*

**Goal 1: Communication**  
 ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX - 3cr (Goal 1 only)

*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 14 additional credits from . . . . . 14*

**Goals 1–10 of the Minnesota Transfer Curriculum**

*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 (AAS)

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 16 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 (MnTC) courses within the AAS degree transfer to institutions in the Minnesota State Colleges and Universities system and other colleges. Please see a Transfer Specialist for specific information and refer to the *Transfer Articulation Agreements Table*.

### AAS Programs

- Accounting
- Auto Body Repair
- Automotive Service Technician
- Business Administration
- Business Information Technology
- Child Development Careers
- Clinical Sports Massage
- Computer Network Engineering
- Computer Programming
- Construction Supervisor
- Cosmetology
- Culinary Arts
- Electrical Technology
- Energy Process Technology
- Entrepreneurship
- Esthetician
- Health Information Technology
- Hospitality Management
- Human Resources
- International Trade Specialist
- Land Surveying Technology
- Manufacturing Technology
- Marketing
- Medical Office Professional
- Medical Laboratory Technician
- Metaverse Application Design
- Metaverse Application Development
- Personal Trainer
- Practical Nursing
- Respiratory Therapist
- Sign Language Interpreter/Transliterator
- Supply Chain Logistics
- Visualization Technology

### General Requirements for the AAS Degree:

- 60–72 earned college-level credits (a minimum of 16 credits from MnTC courses)
- Cumulative GPA of 2.0 or higher
- Meet Saint Paul College residency requirement of 16 credits. This 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 or the University of Minnesota. For specific course requirements, see the individual program descriptions, the Office of Enrollment Services staff or your 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\*

**16 Credits**

*Students are required to complete ENGL 1711 and either SPCH 1700, 1710, 1720, 1730, 1746, 1750, 1770, 1780, 1781, or 1782 from Goal 1 (7 credits) . . . . . 7*

**Goal 1: Communication**

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX (Goal 1 only)

*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 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

### 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 their name or number by calling the Trade Division, 651.846.1320.

### Saint Paul Joint Apprenticeship Committees

(Includes both day and evening programs)

- Floorcoverers
- Pipefitters
- Ironworkers
- Plumbers

# 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 (MnTC) 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) 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. Contact 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 next column, according to the distribution requirements for your degree. The Associate in Science degree requires 30 MnTC credits; the Associate in Applied Science degree requires 16 MnTC credits.

*For any additions or changes in the MnTC Course List, contact the College Transfer Specialist located in the Transfer Center.*



Goal 1: Communication			Credits
ENGL	1711	Composition 1 (Required) (p)	4
ENGL	1712 <sup>2</sup>	Composition 2 (p)	2
ENGL	1730	Introduction to Technical Writing	3
SPCH	1700 <sup>8</sup>	Introduction to Speech Communications	3
SPCH	1710 <sup>8</sup>	Fundamentals of Public Speaking	3
SPCH	1720 <sup>7</sup>	Interpersonal Communication	3
SPCH	1730 <sup>8</sup>	Intercultural Communication	3
SPCH	1746 <sup>6</sup>	Principles of Oral Communication	3
SPCH	1750 <sup>9</sup>	Small Group Communication	3
SPCH	1770 <sup>7</sup>	Family Communications	3
SPCH	1780 <sup>7</sup>	Gender Communication	3
SPCH	1781	Effective Listening	3
SPCH	1782 <sup>7</sup>	Organizational Communication	3

Goal 2: Critical Thinking		Credits
Fulfilled when all 10 goal areas (40 credits) are completed.		

Goal 3: Natural Sciences			Credits
BIOL	1720 <sup>10</sup>	Environmental Science: Current Issues	3
BIOL	1725 <sup>10*</sup>	Environmental Science	4
BIOL	1730*	Human Body Systems	3
BIOL	1735*	Exploring Biology	4
BIOL	1740*	General Biology 1: The Living Cell (p)	5
BIOL	1745*	General Biology 2: The Living World	5
BIOL	1760	Nutrition	3
BIOL	1782*	Introduction to Forensic Science	4
BIOL	1785 <sup>9</sup>	Biology of Men and Women	3
BIOL	2721*	Human Anatomy & Physiology 1 (p)	4
BIOL	2722*	Human Anatomy & Physiology 2 (p)	4
BIOL	2750*	General Microbiology (p)	4
BIOL	2770	Biology Internship	1-4
CHEM	1700*	Chemistry Concepts (p)	4
CHEM	1711*	Principles of Chemistry 1 (p)	4
CHEM	1712*	Principles of Chemistry 2 (p)	4
CHEM	2711*	Organic Chemistry 1 (p)	4
CHEM	2712*	Organic Chemistry 2 (p)	4
NSCI	1710 <sup>10*</sup>	Earth Science	4
NSCI	1721 <sup>10*</sup>	Introduction to Geology	4
NSCI	1730 <sup>10</sup>	Introduction to Oceanography	3
NSCI	1740 <sup>10</sup>	Introduction to Meteorology	3
NSCI	1750 <sup>10</sup>	Natural Disasters	3
NSCI	1760 <sup>10</sup>	Descriptive Astronomy	3
NSCI	1770 <sup>10</sup>	Introduction to Energy & the Environment	3
NSCI	1780 <sup>9</sup>	Contemporary Issues in Science	3
NSCI	1782 <sup>10</sup>	Minnesota Geology	3
PHYS	1720*	Principles of Physics 1 (p)	4
PHYS	1722*	Principles of Physics 2 (p)	4
PHYS	2700*	General Physics 1 (w/ Calculus) (p)	5
PHYS	2710*	General Physics 2 (w/ Calculus) (p)	5

Goal 4: Mathematical/Logical Reasoning			Credits
MATH	1710	Liberal Arts Mathematics (p)	3
MATH	1730 <sup>2</sup>	College Algebra (p)	3
MATH	1740	Introduction to Statistics (p)	4
MATH	1760	Pre-Calculus (p)	4
MATH	2749	Calculus 1 (p)	4
MATH	2750	Calculus 2 (p)	4
MATH	2753	Calculus 3 (p)	4
MATH	2760	Ordinary Differential Equations (p)	4
PHIL	1710	Logic	3

#### Goal 5: History, Social Sciences, and

Behavioral Sciences			Credits
ANTH	1710 <sup>7</sup>	Introduction to Cultural Anthropology	4
ANTH	1720 <sup>10</sup>	Introduction to Physical Anthropology	4
ANTH	1790	Special Topics in Anthropology	3
ECON	1710	Introduction to the American Economy	3
ECON	1720 <sup>8</sup>	Macroeconomics	3
ECON	1730 <sup>8</sup>	Microeconomics	3
GEOG	1700 <sup>10</sup>	Physical Geography	3
GEOG	1720 <sup>8</sup>	Human/Cultural Geography	3
GEOG	1730 <sup>8</sup>	Global Economic Geography	3
GEOG	1740 <sup>8</sup>	World Geography	3
GEOG	1750 <sup>10</sup>	Minnesota Geography	3
HIST	1730 <sup>8</sup>	Contemporary World History	3
HIST	1745 <sup>7</sup>	U.S. History to 1865	4
HIST	1746 <sup>7</sup>	U.S. History Since 1865	4
HIST	1750 <sup>10</sup>	Minnesota History	3
HIST	1760 <sup>8</sup>	History of World Civilizations to 1500	3
HIST	1761 <sup>8</sup>	History of World Civilizations since 1500	3
HIST	1770 <sup>9</sup>	History of Women in the United States	3
HIST	2740 <sup>9</sup>	Immigration and Ethnic History of the United States	3
HIST	2780 <sup>7</sup>	Special Topics in History	3
POLS	1720 <sup>9</sup>	Introduction to American Government	3
POLS	1740 <sup>8</sup>	Introduction to World Politics	3
POLS	1750 <sup>9</sup>	Introduction to Political Science	3
POLS	1760 <sup>10</sup>	Modern Political Ideologies	3
PSYC	1710 <sup>2</sup>	General Psychology (p)	4
PSYC	1720 <sup>9</sup>	Psychology Throughout the Lifespan (p)	3
PSYC	1730	Introduction to Child Psychology (p)	3
PSYC	1740 <sup>7</sup>	Abnormal Psychology (p)	4
PSYC	1750 <sup>7</sup>	Intro to Health Psychology	3
PSYC	1760 <sup>7</sup>	Social Psychology	4
SOCI	1710 <sup>7</sup>	Introduction to Sociology	4
SOCI	1720 <sup>8</sup>	Social Problems	3
SOCI	1730 <sup>7</sup>	Sociology of Families and Relationship	3
SOCI	1740 <sup>8</sup>	Sociology of Work	3
SOCI	1760	Mass Media and Society	4

\*Course contains lab

(p) = Indicates prerequisite required for course

SOCI	1765 <sup>7</sup>	Sociology of Crime and Deviance	3
SOCI	1766 <sup>9</sup>	Juvenile Delinquency	3
SOCI	1772 <sup>9</sup>	Introduction to Criminal Justice	3
SOCI	1780 <sup>7</sup>	Social Psychology	4
SOCI	1790	Special Topics in Sociology	1-3
SOCI	2760 <sup>7</sup>	Sociology through Film and Music	3
SPCH	1740 <sup>9</sup>	Mass Media and Communications	3
SPCH	1745 <sup>9</sup>	Podcasting and Vodcasting Production Theories and Techniques	3
WGST	1785 <sup>9</sup>	Foundations in Women's Studies	3

<b>Goal 6: Humanities and Fine Arts</b>			<b>Credits</b>
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ARTS	1710	Fundamentals of Photography 1	3
ARTS	1711	Fundamentals of Photography 2 (p)	3
ARTS	1712	Advanced Photography (p)	3
ARTS	1715	Black and White Photography	3
ARTS	1720 <sup>8</sup>	Art Appreciation	3
ARTS	1722 <sup>7</sup>	American Animation	3
ARTS	1724 <sup>7</sup>	The Design of Everyday Life	3
ARTS	1726 <sup>7</sup>	Art in the Cities	3
ARTS	1730	Drawing 1	3
ARTS	1731	Drawing 2 (p)	3
ARTS	1740	Introduction to Painting	3
ARTS	1742	Intermediate Painting	3
ARTS	1744	Introduction to Watercolor Painting	3
ARTS	1750	Introduction to Ceramics	3
ARTS	1752	Intermediate Ceramics	3
ARTS	1760 <sup>8</sup>	World Art	3
ARTS	1770	Art in the Americas	3
ARTS	1790	History of Photography	3
ARTS	1795	Special Topics in Art	3
ARTS	2710	Advanced Studio Arts	3-4
ARTS	2754	Advanced Ceramics	3
ENGL	1720	Introduction to Creative Writing	3
ENGL	1780 <sup>7</sup>	Recently-Arrived Contemporary Immigrant Literature	3
ENGL	1790 <sup>7</sup>	Contemporary Writers of Color	3
ENGL	2721 <sup>7</sup>	Survey of American Literature 1 (p)	3
ENGL	2722 <sup>7</sup>	Survey of American Literature 2 (p)	3
ENGL	2730 <sup>2</sup>	Post-Civil War American Novel (p)	3
ENGL	2732 <sup>2</sup>	Exploring the Short Story	3
ENGL	2740 <sup>7</sup>	Native American Literature (p)	3
ENGL	2750 <sup>7</sup>	African American Literature (p)	3
ENGL	2760 <sup>2</sup>	The English Novel (p)	3
ENGL	2770 <sup>2</sup>	Introduction to Poetry (p)	3
ENGL	2775 <sup>2</sup>	Science Fiction and Fantasy (p)	3
ENGL	2778 <sup>2</sup>	Urban Literature-Lost in the City	3
HUMA	1710 <sup>8</sup>	The Art of Being Human	4
HUMA	1720 <sup>8</sup>	The Ancient and Medieval World	4
HUMA	1730 <sup>8</sup>	The Modern World	4
HUMA	1750 <sup>8</sup>	Culture & Civ.: Spanish-Speaking Cultures	3

HUMA	1770 <sup>7</sup>	The Art of Film	3
HUMA	1780 <sup>7</sup>	American Film	3
HUMA	1790 <sup>8</sup>	International Film	3
MUSC	1740 <sup>8</sup>	Music Appreciation	3
MUSC	1750 <sup>7</sup>	Jazz History	3
PHIL	1700	Introduction to Philosophy	3
PHIL	1715 <sup>8</sup>	Philosophy of Scientific Reasoning	3
PHIL	1720 <sup>9</sup>	Ethics	3
PHIL	1722 <sup>9</sup>	Health Care Ethics	3
PHIL	1740 <sup>8</sup>	World Mythology	3
PHIL	1742 <sup>8</sup>	Greek and Roman Mythology	3
PHIL	1750 <sup>8</sup>	Eastern Philosophy	3
PHIL	1760 <sup>8</sup>	World Religions	3
SPCH	1746 <sup>1</sup>	Principles of Oral Communication	3
THTR	1710	Introduction to Theatre	3
THTR	1720	Exploring Theatre Arts	3
THTR	1730	Theatre Stage Craft and performance	3

<b>Goal 7: Human Diversity</b>			<b>Credits</b>
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ANTH	1710 <sup>5</sup>	Introduction to Cultural Anthropology	4
ARTS	1722 <sup>6</sup>	American Animation	3
ARTS	1724 <sup>6</sup>	The Design of Everyday Life	3
ARTS	1726 <sup>6</sup>	Art in the Cities	3
ASLS	1435	Deaf Studies/Culture (p)	3
ENGL	1780 <sup>6</sup>	Recently-Arrived Contemporary Immigrant Literature	3
ENGL	1790 <sup>6</sup>	Contemporary Writers of Color	3
ENGL	2721 <sup>6</sup>	Survey of American Literature 1 (p)	3
ENGL	2722 <sup>6</sup>	Survey of American Literature 2 (p)	3
ENGL	2740 <sup>6</sup>	Native American Literature (p)	3
ENGL	2750 <sup>6</sup>	African American Literature (p)	3
HIST	1745 <sup>5</sup>	U.S. History to 1865	4
HIST	1746 <sup>5</sup>	U.S. History since 1865	4
HIST	2780 <sup>5</sup>	Special Topics in History	3
HUMA	1770 <sup>6</sup>	The Art of Film	3
HUMA	1780 <sup>6</sup>	American Film	3
MUSC	1750 <sup>6</sup>	Jazz History	3
PSYC	1740 <sup>5</sup>	Abnormal Psychology (p)	4
PSYC	1750 <sup>5</sup>	Introduction to Health Psychology	3
PSYC	1760 <sup>5</sup>	Social Psychology	4
SOCI	1710 <sup>5</sup>	Introduction to Sociology	4
SOCI	1730 <sup>5</sup>	Sociology of Families and Relationships	3
SOCI	1765 <sup>5</sup>	Sociology of Crime and Deviance	3
SOCI	1780 <sup>5</sup>	Social Psychology	4
SOCI	2760 <sup>5</sup>	Sociology through Film and Music	3
SPCH	1720 <sup>1</sup>	Interpersonal Communication	3
SPCH	1770 <sup>1</sup>	Family Communication	3
SPCH	1780 <sup>1</sup>	Gender Communication	3
SPCH	1782 <sup>1</sup>	Organizational Communication	3

\*Course contains lab

(p) = Indicates prerequisite required for course

<b>Goal 8: Global Perspective</b>		<b>Credits</b>
ARTS	1720 <sup>6</sup> Art Appreciation	3
ARTS	1760 <sup>6</sup> World Art	3
ASLS	1413 American Sign Language 3 (p)	3
ASLS	1414 American Sign Language 4 (p)	3
ECON	1720 <sup>5</sup> Macroeconomics	3
ECON	1730 <sup>5</sup> Microeconomics	3
GEOG	1720 <sup>5</sup> Human/Cultural Geography	4
GEOG	1730 <sup>5</sup> Global Economic Geography	3
GEOG	1740 <sup>5</sup> World Geography	3
HIST	1730 <sup>5</sup> Contemporary World History	3
HIST	1760 <sup>5</sup> History of World Civilizations to 1500	3
HIST	1761 <sup>5</sup> History of World Civilizations since 1500	3
HUMA	1710 <sup>6</sup> The Art of Being Human	4
HUMA	1720 <sup>6</sup> The Ancient and Medieval World	4
HUMA	1730 <sup>6</sup> The Modern World	4
HUMA	1750 <sup>6</sup> Culture & Civ.: Spanish-Speaking Cultures	3
HUMA	1790 <sup>6</sup> International Film	3
MUSC	1740 <sup>6</sup> Music Appreciation	3
PHIL	1715 <sup>6</sup> Philosophy of Scientific Reasoning	3
PHIL	1740 <sup>6</sup> World Mythology	3
PHIL	1742 <sup>6</sup> Greek and Roman Mythology	3
PHIL	1750 <sup>6</sup> Eastern Philosophy	3
PHIL	1760 <sup>6</sup> World Religions	3
POLS	1740 <sup>5</sup> Introduction to International Relations	3
SOCI	1720 <sup>5</sup> Social Problems	3
SOCI	1740 <sup>5</sup> Sociology of Work	3
SPAN	1710 Beginning Spanish 1	5
SPAN	1720 Beginning Spanish 2 (p)	5
SPAN	1730 Intermediate Spanish 1 (p)	5
SPAN	1740 Intermediate Spanish 2 (p)	5
SPAN	1790 Spanish for the Workplace	3
SPCH	1700 <sup>1</sup> Introduction to Speech Communications	3
SPCH	1710 <sup>1</sup> Fundamentals of Public Speaking	3
SPCH	1730 <sup>1</sup> Intercultural Communication	3

<b>Goal 9: Ethic and Civic Responsibility</b>		<b>Credits</b>
BIOL	1785 <sup>3</sup> Biology of Men and Women	3
HIST	1770 <sup>5</sup> History of Women in the United States	3
HIST	2740 <sup>5</sup> Immigration and Ethnic History of the United States	3
NSCI	1780 <sup>3</sup> Contemporary Issues in Science	3
PHIL	1720 <sup>6</sup> Ethics	3
PHIL	1722 <sup>6</sup> Health Care Ethics	3
POLS	1720 <sup>5</sup> Introduction to American Government	3
POLS	1750 <sup>5</sup> Introduction to Politics	3
POLS	1760 <sup>5</sup> Modern Political Ideologies	3
PSYC	1720 <sup>5</sup> Psychology Throughout the Lifespan (p)	3
SOCI	1766 <sup>5</sup> Juvenile Delinquency	3

SOCI	1772 <sup>5</sup> Introduction to Criminal Justice	3
SPCH	1740 <sup>5</sup> Mass Media and Communications	3
SPCH	1745 <sup>5</sup> Podcasting and Vodcasting Production Theories and Techniques	3
SPCH	1750 <sup>1</sup> Small Group Communication	3
WGST	1785 <sup>5</sup> Foundations in Women's Studies	3

<b>Goal 10: People and the Environment</b>		<b>Credits</b>
ANTH	1720 <sup>5</sup> Introduction to Physical Anthropology	4
BIOL	1720 <sup>3*</sup> Environmental Science: Current Issues	3
BIOL	1725 <sup>3*</sup> Environmental Science	4
GEOG	1700 <sup>5</sup> Physical Geography	4
GEOG	1750 <sup>5</sup> Minnesota Geography	3
HIST	1750 <sup>5</sup> Minnesota History	3
NSCI	1710 <sup>3*</sup> Earth Science	4
NSCI	1721 <sup>3*</sup> Introduction to Geology	4
NSCI	1730 <sup>3</sup> Introduction to Oceanography	3
NSCI	1740 <sup>3</sup> Introduction to Meteorology	3
NSCI	1750 <sup>3</sup> Natural Disasters	3
NSCI	1760 <sup>3</sup> Descriptive Astronomy	3
NSCI	1770 <sup>3</sup> Introduction to Energy & the Environment	3
NSCI	1782 <sup>3</sup> Minnesota Geology	3
POLS	1760 Modern Political Ideologies	3

\*Course contains lab

(p) = Indicates prerequisite required for course

## 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 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 with a 2.0 GPA 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 premajor requirements.

**Note:** Course requirements may vary depending on the major and transfer college, so it is important to talk to a Transfer Specialist at Saint Paul College and to the appropriate person 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 which 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 in the Transfer Center 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 which 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. Bachelor's 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, IB 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](http://www.saintpaul.edu)) or the Minnesota Transfer Web site ([www.mntransfer.org](http://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 (at other Institutions)

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

Request official transcripts be sent from all previously 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, transcribed 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 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 2011-2012

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

The following table summarizes transfer to many colleges. 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 also available in the Transfer Center in Room 1365.

Saint Paul College	Degree/Major Offered	Transfer Institution
AA/MnTC	- Various Majors	All Minnesota State Colleges and Universities
AA/AS	- Various Majors	Argosy University
Selected Liberal Arts Courses	- Various Majors	Augsburg College
AA	BS Education (DLiTE program)	Bemidji State University
Selected Liberal Arts Courses	- Various Majors	Bethel 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, Minneapolis
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 2011-2012

(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. View articulation agreements on-line at [www.mntransfer.org](http://www.mntransfer.org). Enter the "Student portal", select "Transfer Planning", and then "Articulation Agreements".

Accounting AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BBA	Accounting	Concordia University
	BBA	Finance	Concordia University
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Accounting AAS, Diploma	BS	Various Majors	Cardinal Stritch University-Woodbury
	BBA	Accounting	Concordia University
	BSM	Management	Concordia University
	BAS	Organizational Management	Metropolitan State University
	BS	Accounting	Saint Mary's University-Minneapolis
Auto Body Repair AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Technology Management	Bemidji State University
	BS	Operations Management	University of Minnesota-Moorhead
	BS	Management	University of Wisconsin-Stout
Auto Body Repair Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Automotive Service Technician AAS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Automotive Service Technician Diploma	BAS	Technology Management	Bemidji State University
	BS	Various Majors	Saint Mary's University-Minneapolis
Biomedical Engineering Technology AS	BA	Individualized Studies	Metropolitan State University
	BS	Management	University of Wisconsin-Stout

Business Administration AAS (formerly Administrative Assistant AAS)	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BBA	Marketing	Concordia University
	BA	Marketing	Concordia University
	BA	Organizational Management	Concordia University
	BAS BS	Organizational Management Management	Metropolitan State University University of Wisconsin-Stout
Business Information Technology AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BA	Information Technology, Management	Concordia University
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Business Logistics Management AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BA	Marketing Management	Concordia University
	BA	Organizational Management	Concordia University
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Business Management AS	BA	Various Majors	Bethel University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BA	Business Management	Concordia University
	BA	Human Resources	Concordia University
	BA	Business Management	College of St. Scholastica
	BS	Business Administration	Metropolitan State University
	BS BS	Business Management	Saint Mary's University-Minneapolis University of Wisconsin-Stout
Cabinetmaking Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Carpentry Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Chemical Laboratory Technician AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BS	Management	University of Wisconsin-Stout
Chemical Technology AS	BA	Individualized Studies	Metropolitan State University
Child Development AS	BS	Early Childhood Education	University of Wisconsin-Stout
	BS	Urban Early Childhood Education	Metropolitan State University
	BS	Human Development & Family Studies	University of Wisconsin-Stout
Child Development AAS	BAS	Early Childhood Studies	Metropolitan State University
	BS	Urban Early Childhood Education	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
	BS	Human Development & Family Studies	University of Wisconsin-Stout
Child Development ASL AS	BAS	Early Childhood Studies	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Clinical Massage Therapy AAS	BA	Kinesiology	Concordia University
	BS	Management	University of Wisconsin-Stout
CNC Programming Certificate	BAS	Technology Management	Bemidji State University
CNC/Toolmaking Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Computer Courses (designated courses)	BA	Computer Info Systems	Metropolitan State University
	BS	Computer Science	Metropolitan State University
Computer Graphics and Visualization AS	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Computer Network Engineering AAS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Information & Communication Technologies	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout
Computer Network Engineering Specialist AS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Computer Programming AAS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Information & Communications Technologies	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout
Computer Programming Specialist AS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BA	Comp Science/Info Systems	College of St. Scholastica
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Information Technology	Saint Mary's University-Minneapolis
	BS	Management	University of Wisconsin-Stout

Computer Science AS	BS	Various Business Degrees	Cardinal Stritch University - Woodbury
	BA	Comp Science/Info Systems	College of St. Scholastica
	BS	Computer Science	Metropolitan State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Construction Electricity Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Construction Supervisor AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Industrial Management	Metropolitan State University
	BS	Operations Management	University of Minnesota-Moorhead
	BS	Management	University of Wisconsin-Stout
Cosmetology AAS	BS	Management	University of Wisconsin-Stout
Culinary Arts AAS	BAS	Hospitality Management	Metropolitan State University
	BS	Culinology	Southwest Minnesota State University
	BS	Hospitality, Restaurant, & Tourism Management	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout
Energy Process Technology AAS, Certificate	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Industrial Management	Metropolitan State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Entrepreneurship AAS, Certificate	BS	Management	University of Wisconsin-Stout
Engineering Technology AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Industrial Management	Metropolitan State University
	BS	Operations Management	University of Minnesota-Moorhead
Esthetician AAS	BS	Management	University of Wisconsin-Stout
Health Information Technology AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Health Unit Coordinator Certificate	BA	Individualized Studies (First College)	Metropolitan State University
Hospitality Management AAS	BAS	Organizational Administration	Metropolitan State University
	BAS	Hospitality Management	Metropolitan State University
	BS	Restaurant & Tourism Management	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout
Human Resources AAS	BA	Various Majors	Bethel University
	BSM	Various Majors	Cardinal Stritch University-Woodbury
	BA	Human Resources Management	Concordia University
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
International Trade Specialist AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BA	Business Management	Concordia University
	BA	Marketing Management	Concordia University
	BA	Organizational Management	Concordia University
	BBA	Marketing Management	Concordia University
	BAS	Organizational Administration	Metropolitan State University
	BA	Individualized Studies	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
International Trade Specialist AAS, Certificate	BA	First College (Individualized Major)	Metropolitan State University
	BS	Various Majors	Saint Mary's University-Minneapolis
Java Programming Certificate	BAS	Technology Management	Bemidji State University
J2EE Application Development Certificate	BAS	Technology Management	Bemidji State University
Land Surveying Technology AS (formerly Geomatics & Mapping Science AS)	BS	Various Degrees	Cardinal Stritch University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Land Surveying	St. Cloud State University
	BS	Management	University of Wisconsin-Stout
Manufacturing Technology AAS	BS	Operations Management	Minnesota State University-Moorhead
Management Information Systems AS	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University
	BA	Computer Science/ Info Systems	College of St. Scholastica
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
	BS	Information & Communication Technologies	University of Wisconsin-Stout
Marketing AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Medical Laboratory Technician AAS (selected coursework)	BS	Clinical Lab Science	University of North Dakota
	BS	Clinical Lab Science	Winona State University
	BS	Management	University of Wisconsin-Stout
Medical Laboratory Technician AAS	BA	Individualized Studies	Metropolitan State University
	BS	Various Majors	Saint Mary's University-Minneapolis
	BS	Industrial Management	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout



Medical Office Professional AAS	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BS	Industrial Management	University of Wisconsin-Stout
	BS	Management	University of Wisconsin-Stout
Nail Care Technician Certificate	BS	Various Majors	Saint Mary's University-Minneapolis
Network Administration Certificate	BAS	Technology Management	Bemidji State University
Metaverse Application Development AAS	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Micro Mechanical Technology Diploma	BS	Operations Management	Minnesota State University-Moorhead
Personal Trainer AAS	BS	Management	University of Wisconsin-Stout
	BS	Kinesiology	Concordia University
Pipefitting Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Pipefitting Construction Certificate	BAS	Technology Management	Bemidji State University
Plumbing Diploma	BAS	Technology Management	Bemidji State University
Practical Nursing Diploma	AS	Nursing	Minnesota State Colleges & Universities
Respiratory Therapist/Care Practitioner AAS	BA	Individualized Studies	Metropolitan State University
	BS	Pulmonary Science	Concordia University
	BS	Management	University of Wisconsin-Stout
Sheet Metal Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Sign Language Interpreter/Transliterater AAS	BA	Psychology	Metropolitan State University
	BA	Individualized Studies	Metropolitan State University
	BS	Management	University of Wisconsin-Stout
Truck Technician Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Visualization Technology AAS (formerly Computer Graphics and Visualization)	BAS	Technology Management	Bemidji State University
	BS	Various Business Degrees	Cardinal Stritch University-Woodbury
	BAS	Organizational Administration	Metropolitan State University
	BAS	Advertising and Business Management	Metropolitan State University
	BS	Operations Management	Minnesota State University-Moorhead
	BS	Management	University of Wisconsin-Stout
Web Design Certificate	BS	Information & Communication Technologies	University of Wisconsin-Stout
	BAS	Technology Management	Bemidji State University
Welding Fabrication Diploma	BAS	Technology Management	Bemidji State University
	BS	Operations Management	Minnesota State University-Moorhead
Welding Metal Fabrication Certificate	BAS	Technology Management	Bemidji State University



# Programs

Business Programs

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Computer Programs

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Health and Service Programs

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Language Programs

ASL-Interpreting Programs  
English for Speakers of Other Languages

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Liberal Arts and Sciences  
Departments and Courses

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Manufacturing and Technology Programs

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Transportation, Construction and  
Building Programs

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# Business Programs

<b>Accounting*</b>	<b>52</b>
	Accounting AAS Degree Accounting Technician Diploma
<b>Business Administration/Business Technology*</b>	<b>53</b>
	Business Administration AAS Degree Business Information Technology AAS Degree Business Information Technology Certificate Business Applications Specialist Certificate
<b>Business Management*</b>	<b>57</b>
	Business Management AS Degree Leadership Certificate Nonprofit Certificate <b>NEW!</b> Project Management Certificate Supervision Certificate
<b>Entrepreneurship*</b>	<b>60</b>
	Entrepreneurship AAS Degree Entrepreneurship Certificate
<b>Hospitality Management*</b>	<b>61</b>
	Hospitality Management AAS Degree Restaurant Management Certificate Hospitality Management Certificate
<b>Human Resources*</b>	<b>63</b>
	Human Resources AAS Degree Human Resources Specialist Certificate Human Resources Professional Certificate
<b>International Trade*</b>	<b>64</b>
	International Trade Specialist AAS Degree International Trade Professional Certificate
<b>Marketing*</b>	<b>65</b>
	Marketing AAS Degree Marketing Certificate
<b>Supply Chain Logistics*</b>	<b>66</b>
	Supply Chain Logistics AAS Degree Supply Chain Logistics Advanced Technical Certificate
<b>Health Information Technology and Medical Office Careers</b>	<b>67</b>
	Health Information Technology AAS Degree Medical Office Professional AAS Degree Medical Coding Certificate Medical Records Clerk Certificate Medical Receptionist Certificate Medical Transcriptionist Certificate

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# Accounting

Accounting AAS Degree . . . . . 64 Credits  
 Accounting Technician Diploma . . . . . 39 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, nonprofit accounting, auditing, taxation, cost accounting and managerial positions.

## Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related business support areas.
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 work and personal roles.

5. Graduates will serve their employers and clients in all phases of accounting, including cost accounting, taxes, estates and trusts and nonprofit accounting.

## Accounting AAS Degree

### Program Requirements

Required Business Core		Cr
<b>Professional Component</b>		
BUSN 1410	Introduction to Business	3
ACCT 1411	Principles of Accounting 1	4
ACCT 1412	Principles of Accounting 2	4
BUSN 2470	Legal Environment of Business	3
BTEC 1421	Business Information Applications 1	3
BTEC 1445	Business Communications	3
<b>Required Business Core</b>		<b>20</b>
Course		Cr
ACCT 1511	Federal Taxation 1	4
ACCT 1512	Federal Taxation 2	4
ACCT 1521	Accounting Computer Applications	4
ACCT 2411	Intermediate Accounting	4
ACCT 2420	Managerial Accounting	4
ACCT 2520	Auditing	4
ACCT 2540	Financial Modeling for Spreadsheets	4
<b>Subtotal</b>		<b>28</b>
<b>Required Business Core</b>		<b>20</b>
<b>General Education Requirements</b> (ECON 1720 or 1730 is required)		<b>16</b>
<b>Total Program Credits</b>		<b>64</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX – 3 cr (Goal 1 only)

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

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

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



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## 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	4
ACCT 2420	Managerial Accounting	4
ACCT 2540	Financial Modeling for Spreadsheets	4
BTEC 1421	Business Information Applications 1	3
BUSN 1480	Career Resources	1
COMMXXXX	Communication course (Choose a COMM or SPCH course, 1000 level or higher, or ENGL 1711 or higher)	3
	<b>Subtotal</b>	<b>35</b>
	<b>Business Elective</b>	<b>4</b>
	<b>Total Program Credits</b>	<b>39</b>

## Business Administration/ Business Technology

Business Administration AAS Degree . . . . .	60 Credits
Business Information Technology AAS Degree	60 Credits
Business Information Technology Certificate . .	30 Credits
Business Applications Specialist Certificate . . .	25 Credits

## Business Administration

### 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 business environment. Business Administration is recommended for experienced staff (those wishing to increase their potential for promotion), as well as entry-level employees. Graduates will have expert skills and in-depth software knowledge.

### Career Opportunities

The opportunities for employment in the business administration area are unlimited depending on the individual's strengths and interests. 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 business support areas.
2. Graduates will be experienced in business 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 business administration skills and software applications.



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## Business Administration AAS Degree

### Program Requirements

<b>Program Prerequisites</b>		<b>Cr</b>
BTEC 1400	Keyboarding (or keyboarding skills)	2
BTEC 1418	Computer Fundamentals (or knowledge of computers)	3
<b>Required Business Core</b>		<b>Cr</b>
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Applications 1	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>
<b>Course</b>		<b>Cr</b>
BTEC 1423	Business Information Applications 2	4
BTEC 1530	Communication Technology	4
BTEC 2410	Business Procedures	4
BTEC 2550	Emerging Business Technologies	4
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
<b>Choose 5 credits from the following electives:</b>		<b>5</b>
ACCT 1412	Principles of Accounting 2	4
BTEC 1410	Advanced Keyboarding Applications	3
BTEC 2506	Business Information Applications 3	4
BUSN 1482	Business Career Resources	2
<b>Subtotal</b>		<b>27</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b> (ECON 1720 or 1730 is required)		<b>17</b>
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 17 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr.  
SPCH XXXX – 3 cr (Goal 1 only)

Students are required to complete one of the following from Goal 3 or Goal 4. . . . . 4

#### Goal 3: Natural Sciences

BIOL 1725 Environmental Science – 4 cr

#### Goal 4: Mathematical/Logical Reasoning

MATH 1740 Introduction to Statistics – 4 cr

Select a minimum of 3 credits 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

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

## Business Information Technology AAS Degree

### Program Overview

A graduate of the Business Information Technology AAS Degree will be trained for a business and information support position that may use a wide range of systems and software applications such as database, spreadsheet, presentation graphics, word processing, and integrated software applications, business websites, templates, and desktop publishing. Students graduating with the Business Information Technology degree can provide support for business systems end-users and assist with business training, problem solving, and troubleshooting.

Graduates in this program are equipped with knowledge of cutting-edge technology and software, a professional attitude, enhanced skills in the business environment, the ability to work independently or in workgroups, under pressure and within deadlines, and the flexibility to cope with interruptions and business system/software problems.

Program graduates are working in small and large companies. Other graduates are continuing their education. Graduates in this program cover content in preparation for the Microsoft Certified Application Specialist certification exams.

### Career Opportunities

Opportunities are excellent for skilled, capable, and dependable graduates. Graduates can be employed in a variety of business administrative and information support positions that require advanced technical training such as: administrative assistant, office coordinator, assistant manager, and executive assistant.

### Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related business support areas.
2. Graduates will be experienced in business protocol via course projects 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 business software applications.



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## Business Information Technology AAS Degree

### Program Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding (or keyboarding skills)	2
BTEC 1418	Computer Fundamentals (or knowledge of computers)	3

Required Business Core		Cr
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#### Professional Component

ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Application 1	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>

Course	Cr
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BTEC 1410	Advanced Keyboarding Applications	3
BTEC 1423	Business Information Applications 2	4
BTEC 1530	Communication Technology	4
BTEC 2410	Business Procedures	4
BTEC 2506	Business Information Applications 3	4
BTEC 2550	Emerging Business Technologies	4
<b>Choose 4 credits from the following electives:</b>		<b>4</b>
BTEC 1401	Skillbuilding for Keyboarding	2
BUSN 1440	Marketing Principles	3
BUSN 1482	Business Career Resources	2
BUSN 2450	Management Fundamentals	3
<b>Subtotal</b>		<b>27</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b> (ECON 1720 Macroeconomics <b>OR</b> ECON 1730 Microeconomics is required)		<b>17</b>
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 17 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH 1710, 1720, 1730 or 1750 – 3 cr

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

#### Goal 3: Natural Sciences

BIOL 1725 Environmental Science – 4 cr

#### Goal 4: Mathematical/Logical Reasoning

MATH 1740 Introduction to Statistics – 4 cr

Select a minimum of 3 credits 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

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

## Business Information Technology Certificate

### Program Overview

The Business Information Technology Certificate graduate will work in a business support position that may use a wide range of systems and software applications such as databases, spreadsheets, graphics, word processing, integrated software applications, business websites, templates, and desktop publishing. Students graduating with the Business Information Technology degree provide support for business systems and end-users. Graduates may assist with business training, problem solving, and troubleshooting.

Graduates in this program are equipped with knowledge of cutting-edge technology and software and have enhanced skills for use in the business environment. Graduates may work independently or in workgroups under pressure and within deadlines. Program graduates work in small and large companies.

### Career Opportunities

Opportunities are excellent for skilled, capable, and dependable graduates. Graduates can be employed in a variety of business, administrative, and information support positions that require advanced technical training such as: administrative assistants, office coordinators, assistant managers, and executive assistants.

### Program Outcomes

1. Graduates will possess the knowledge and skills for immediate employment in related business support areas.
2. Graduates will be experienced in business 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 business software applications.



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## Business Information Technology Certificate

### Program Requirements

<b>Program Prerequisites</b>		<b>Cr</b>
BTEC 1400	Keyboarding (or Keyboarding Skills)	2
BTEC 1418	Computer Fundamentals (or knowledge of computers)	3
<b>Required Business Core</b>		<b>Cr</b>
<b>Professional Component</b>		
BTEC 1421	Business Information Applications 1	3
BTEC 1445	Business Communications	3
<b>Required Business Core</b>		<b>6</b>
<b>Course</b>		<b>Cr</b>
BTEC 1401	Skillbuilding for Keyboarding	2
BTEC 1410	Advanced Keyboarding Applications	3
BTEC 1423	Business Information Applications 2	4
BTEC 1530	Communication Technology	4
BTEC 2410	Business Procedures	4
<b>Choose 4 credits from the following electives:</b>		<b>4</b>
BTEC 2506	Business Information Applications 3	4
BTEC 2550	Emerging Business Technologies	4
BUSN 1482	Business Career Resources	2
DGIM 1443	Dreamweaver 1	2
DGIM 1448	Adobe Flash 1	2
<b>Subtotal</b>		<b>21</b>
<b>Required Business Core</b>		<b>6</b>
<b>General Education Requirements</b> (COMM 1460 Applied Interpersonal Communications <b>OR</b> SPCH 1720 Interpersonal Communications is recommended)		<b>3</b>
<b>Total Program Credits</b>		<b>30</b>

## Business Applications Specialist

### Program Overview

Business Applications Specialists utilize a wide range of business systems and software applications such as: electronic mail, the Internet, word processing, Excel worksheets, Access database management, PowerPoint presentation graphics, planning and scheduling, desktop publishing, and business Web site development. Business personnel work with communication technology such as instant messaging, voice mail, cell phones, voice recognition, and various multimedia features.

Graduates in this program will have excellent technical software support skills. Professionals in this field enjoy working with computers and software, show a strong interest in emerging technology, and have a strong desire to work as part of a team.

The Business Applications specialist certificate is a short-term, concentrated format that is recommended for experienced business staff who are looking for advancement or enhancement within their current organization, or students wanting to quickly enter the business market with strong computer software skills.

### Career Opportunities

Employment opportunities will continue to grow in this business software support area. The Business Application Specialist program is designed to provide students with advanced Microsoft Office software skills. Graduates will possess the necessary skills to be employed in a variety of business support positions such as: Administrative Assistants, Executive Assistants, Virtual Coordinators, Software User Support Specialist, Office Systems Specialists, Assistant Managers, Project Assistants, Office Coordinators, and Desktop Publishing Specialists.

### 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 certification in Word, Excel, Access and PowerPoint.

## Business Applications Specialist Certificate

Students may complete courses in the Business Applications Specialist 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.

### Program Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding (or Keyboarding Skills)	2
BTEC 1418	Computer Fundamentals (or knowledge of computers)	3

Required Business Core		Cr
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Professional Component		
BTEC 1421	Business Information Applications 1	3
BTEC 1445	Business Communication	3
<b>Required Business Core</b>		<b>6</b>

Course		Cr
BTEC 1423	Business Information Applications 2	4
BTEC 1530	Communication Technology	4
BTEC 2506	Business Information Applications 3	4
BTEC 2550	Emerging Business Technologies	4
<b>Subtotal</b>		<b>16</b>
<b>Required Business Core</b>		<b>6</b>
<b>General Education Requirements</b> (COMM 1460 Applied Interpersonal Communications OR SPCH 1720 Interpersonal Communications are recommended)		<b>3</b>
<b>Total Program Credits</b>		<b>25</b>

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 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 Administration Core

The following professional core is for programs in Marketing and Entrepreneurship, Hospitality, Sports and Entertainment Management, Human Resources, International Trade, Administrative Management (Business Administration), Administrative Assistant (Business Information Technology), Business Logistics Management, and Business Management.

## Business Management

Business Management AS Degree . . . . .	60 Credits
Leadership Certificate . . . . .	27 Credits
Nonprofit Certificate . . . . .	27 Credits
Project Management Certificate . . . . .	13 Credits
Supervision Certificate . . . . .	12 Credits

### 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



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## Business Management AS Degree

### Program Requirements

#### Required Business Core Cr

##### Professional Component

ACCT 1411	Principles of Accounting 1	4
BTEC 1445	Business Communications	3
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
	<b>Required Business Core</b>	<b>16</b>

#### Course Cr

ACCT 1412	Principles of Accounting 2	4
BUSN 1440	Marketing Principles	3
BUSN 1482	Business Career Resources	2
BUSN 2450	Management Fundamentals	3
BUSN 2480	Business Management Internship/elective	2
	<b>Subtotal</b>	<b>14</b>
	<b>Required Business Core</b>	<b>16</b>
	<b>General Education Requirements</b>	<b>30</b>
	ECON 1720 <b>OR</b> 1730 is recommended	
	<b>Total Program Credits</b>	<b>60</b>

#### Recommended Electives

BUSN 2455	Essentials of Entrepreneurship & Small Business Management	3
BUSN 2480	Business Management Internship	3
CSCI 1410	Computer Science & Information Systems	4
HMRS 1400	Human Resource Management	3
INTL 1400	Introduction to International Business	3
INTL 1410	International Communications and Cultural Awareness	3
	<i>Other Courses with Advisor approval</i>	

#### AAS Degree General Education Requirements\* 30 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

##### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH 1710 – 3 cr is recommended

Students are required to complete the following from Goal 3 or Goal 4 . . . . . 4

##### Goal 3: Natural Sciences

BIOL 1725 Environmental Science – 4 cr **OR**

##### 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 **OR**  
ECON 1730 Microeconomics is recommended  
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

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

## Leadership

### Program Overview

The Leadership Certificate program is designed for students who have a desire to learn or enhance specific leadership skills and behaviors such as effectively leading others, managing initiatives, influencing change in the organization, and helping employees achieve their goals while contributing to an organizations productivity and success.

The program is targeted at emerging leaders, as well as those currently leading a group, function or business team. This certificate program covers the fundamental areas of successful leadership including self-development, interpersonal development, community/societal development, and organizational development.

Leaders today face enormous challenges such as employee motivation, navigating change and building work relationships. Enrolling in this certificate program will give students the tools needed to become leaders who can make a positive impact on an organization, respond to business needs, create strategic innovation, and obtain a competitive advantage and profitable growth for an organization. Our leadership certificate program allows students to discover and explore what it takes to be a skilled and effective leader.

The leadership certificate program consists of ten courses focused on providing essential leadership information, delivered in a timely manner designed to fit busy work and family schedules.

### Program Outcomes

1. Graduates will have a self-awareness of personal leadership style, strengths and skills, and how these impact others in an organization.
2. Graduates will be equipped with a solid foundation in leadership.
3. Graduates will be able to apply leadership theory, organizational behavior theory, change theory, and communication theory and demonstrate best practices in organizational leadership on the job.
4. Graduates will have a working knowledge of leadership practices consistent with ethical, legal, and regulatory expectations.
5. Graduates will be able to develop characteristics, habits, skills and the understanding necessary for leadership in a complex and cross-cultural environment.
6. Graduates will understand the interrelationships among society, communities, teams, and individuals and how to have an influential presence in these areas.
7. Graduates will have a competitive advantage in job and career development.

## Leadership Certificate

### Program Requirements

Course		Cr
BTEC 1445	Business Communications	3
BUSN 2410	Critical Thinking for Decision Making	2
BUSN 2450	Management Fundamentals	3
BUSN 2463	Organizational Leadership and Decision Making	3
BUSN 2464	Leading and Coaching Others	2
BUSN 2465	Business Ethics	3
BUSN 2466	Managing Change and Conflict	2
BUSN 2471	Strategic Planning	3
BUSN 2472	Business Negotiation Skills	3
HMRS 2410	Employee and Labor Relations	3
<b>Total Program Credits</b>		<b>27</b>

## Nonprofit Organizations

### Program Overview

The Nonprofit Certificate program is designed for students who are currently working in the nonprofit sector or for those who desire an introductory perspective on the unique issues facing a nonprofit organization. This certificate program consists of 12 courses geared to provide the essential information of nonprofit business. These courses are delivered in a timely manner designed to fit your busy work and family schedules. Students will examine the fundamental principles of nonprofit, the roles and responsibilities of a nonprofit board of directors and the management team, the essential aspects of fundraising, and the fundamentals of the budgeting process.

Nonprofit organizations face new challenges: government funding cutbacks, growing numbers of clients, and the expanding need to acquire and manage financial resources. Nonprofit organizations must find ways to meet these challenges.

Enrolling in this certificate program will provide you with knowledge designed to empower the nonprofit organization with the skills necessary to succeed. For those who work in, or desire to work in, a nonprofit organization or business environment, this is the program for you!

### Program Outcomes

1. Graduates will examine the fundamental principles of the nonprofit organization, as well as roles and responsibilities of nonprofit board of directors, volunteers, and the management team.
2. Graduates will develop practical and managerial skills necessary to plan operational success.
3. Graduates will understand financial and accounting terms.
4. Graduates will develop the skills of the marketing process.

5. Graduates will learn the basics of employment law, compliance and regulatory requirements.
6. Graduates will examine the foundational aspects of fundraising and grant writing and how to maximize those opportunities.
7. Graduates will develop a successful leadership style.
8. Graduates will gain confidence and improve communication skills.
9. Graduates will explore the process of negotiating and evaluate negotiation styles.

## Nonprofit Certificate

### Program Requirements

Course		Cr
ACCT 2530	Fundamentals of Nonprofit Accounting	4
BTEC 1445	Business Communications	3
BUSN 2440	Fundamentals of Nonprofit Management	3
BUSN 2441	Fundraising Techniques	1
BUSN 2442	Grant Writing and Research	1
BUSN 2443	Dynamics of Board Relations	1
BUSN 2444	Volunteer Program Management	1
BUSN 2445	Legal Environment of Nonprofits	1
BUSN 2463	Organizational Leadership and Decision Making	3
BUSN 2465	Business Ethics	3
BUSN 2471	Strategic Planning	3
BUSN 2472	Business Negotiation Skills	3
<b>Total Program Credits</b>		<b>27</b>

## Project Management Certificate\*\*

### Program Requirements

Course		Cr
BSLM 2463	Organizational Leadership and Decision Management	3
BUSN 2472	Business Negotiation Skills	3
BUSN 2475	Project Management	4
CSCI 2410	Management Information Systems	3
<b>Total Program Credits</b>		<b>13</b>

\*\* pending approval

## Supervision Certificate

### Program Requirements

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
<b>Total Program Credits</b>		<b>12</b>

# Entrepreneurship

Entrepreneurship AAS Degree . . . . .	60 credits
Entrepreneurship Certificate . . . . .	33 credits

## Program Overview

Many people dream of owning their own business for financial and professional independence as well as the pride of ownership. A degree in Entrepreneurship/Small Business Management can help make that dream become a reality, by providing students with the skills and knowledge necessary to launch a successful business. In this degree program, students will: learn how to develop, maintain and grow their own business; explore entrepreneurial concepts and processes that apply to both start-up and well-established enterprises, with an innovative focus and entrepreneurial spirit; analyze how an organization contributes to society and how entrepreneurship and commercial activities affect the environment; explore topics such as market opportunity, product development, intellectual property, and commercialization. Entrepreneurship and small business plays a key role in the U.S. economy by providing jobs to a large segment of the workforce. Completing this degree will help the small business entrepreneur maximize the skills and abilities necessary to do business in our challenging environment.

## Program Outcomes

1. Graduates will have skills, knowledge and abilities in core business functions, including accounting, marketing and management.
2. Graduates will have an understanding of how to start and market an entrepreneur/small business operation.
3. Graduates will be prepared to manage, market, and enhance an entrepreneurship/small business operation.
4. Graduates will successfully complete a business plan for their new business.

# Entrepreneurship AAS Degree

## Program Requirements

<b>Required Business Core</b>		<b>Cr</b>
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1445	Business Communications	3
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>
<b>Course</b>		<b>Cr</b>
BUSN 1440	Marketing Principles	3
BUSN 1482	Business Career Resources	2
BUSN 2450	Management Fundamentals	3
BUSN 2455	Essentials of Entrepreneurship & Small Business Management	3
BUSN 2472	Business Negotiation Skills	3
BUSN 2482	Entrepreneurship Capstone	3
HMRS 1400	Human Resource Management	3
HMRS 2410	Employee/Labor Relations	3
<b>Subtotal</b>		<b>28</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b>		<b>16</b>
(ECON 1720 Macroeconomics OR ECON 1730 Microeconomics is recommended)		
<b>Total Program Credits</b>		<b>60</b>

## AAS Degree General Education Requirements\* 16 Credits

*Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7*

**Goal 1: Communication**  
ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

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

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*Select a minimum of 3 credits from Goal 5 . . . . . 3*

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

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*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.



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## 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	Essentials of Entrepreneurship & Small Business Management	3
BUSN 2460	Entrepreneurship Resources	2
BUSN 2470	Legal Environment of Business	3
BUSN 2472	Business Negotiation Skills	3
BUSN 2482	Entrepreneurship Capstone	3
HMRS 1400	Human Resource Management	3
HMRS 2410	Employee/Labor Relations	3
<b>Subtotal</b>		<b>30</b>
<b>General Education</b>		<b>3</b>
<b>Total Program Credits</b>		<b>33</b>

## Hospitality Management

Hospitality Management AAS Degree . . . . .	60 Credits
Restaurant Management Certificate . . . . .	13 Credits
Hospitality Management Certificate . . . . .	15 Credits

### Program Overview

The Hospitality Management curriculum focuses on the management of today's exciting hospitality and entertainment industries. Students will receive a solid foundation of business practices related to this growing service industry. Courses will examine organizations in lodging, tourism, and entertainment, food and beverage operations.

### Program Outcomes

1. Graduates will understand broad hospitality, food and entertainment concepts.
2. Graduates will have knowledge of the hotel, travel and tourism industry.
3. Graduates will develop strong customer service, human relations and communications skills.
4. Graduates will demonstrate problem-solving skills and integrate new ways of thinking and learning.

### Career Opportunities

According to Hospitality Minnesota, a Roseville-based trade association, the industry employs more than 127,000 people and pays \$3.7 billion in wages each year, making it the state's second-largest industry. Nationally, the U.S. Bureau of Labor Statistics estimates have noted that the hospitality industry will generate more than 41,000 new jobs between 2004 – 2014.

There are a wide variety of employment opportunities including hotel/lodging operations, restaurant and catering management, travel and tourism, sports, recreation and facilities management, gaming and casino operations, meeting, convention and special event management.



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## Hospitality Management AAS Degree

### Program Requirements

Required Business Core		Cr
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>

Course		Cr
BUSN 1440	Marketing Principles	3
BUSN 1441	Consumer Behavior	3
BUSN 1482	Business Career Resources	2
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
HSPM 1410	Introduction to Hospitality Management	3
HSPM 1421	Introduction to Tourism	2
HSPM 1440	Event Management and Planning	3
HSPM 2420	Hotel and Lodging Operations	3
HSPM 2440	Hospitality Marketing and Sales	3
<b>Subtotal</b>		<b>28</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b>		<b>16</b>
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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

- 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

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

## Restaurant Management Certificate

### Program Requirements

Course		Cr
BUSN 2450	Management Fundamentals	3
HSPM 1410	Introduction to Hospitality Management	3
CULA 1540	Food Service Supervisory Management	2
CULA 1560	Food, Beverage Labor Cost Control	3
CULA 1470	Food Service Sanitation	2
<b>Total Program Credits</b>		<b>13</b>

## Hospitality Management Certificate

### Program Requirements

Course		Cr
BUSN 1410	Introduction to Business	3
BUSN 1440	Marketing Principles	3
BUSN 2450	Management Fundamentals	3
HSPM 1410	Introduction to Hospitality Management	3
HSPM 2420	Hotel and Lodging Operations	3
<b>Total Program Credits</b>		<b>15</b>



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# Human Resources

Human Resources AAS Degree . . . . .	60 Credits
Human Resources Specialist Certificate . . . . .	29 Credits
Human Resources Professional Certificate . . . . .	15 Credits

## Program Overview

The human resource professional 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 (e.g., HRIS, record keeping, compensation/benefits administration and staffing procedures).
2. Graduates will have the skills, knowledge and abilities to identify and deal with employee relations 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.

# 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

Required Business Core		Cr
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>
Course		Cr
BUSN 1482	Business Career Resources	2
BUSN 2450	Management Fundamentals	3
HMRS 1400	Human Resource Management	3
HMRS 1490	Talent Management	3
HMRS 1510	HR Information Systems & Records	3
HMRS 1520	Compensation & Benefits Administration	3
HMRS 2410	Employee/Labor Relations	3
HMRS 2420	Employment Law & HR Policies	3
HMRS 2591	Human Resource Internship	3
<b>Subtotal</b>		<b>26</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b>		<b>18</b>
ECON 1720 <b>OR</b> 1730 is required		
<b>Total Program Credits</b>		<b>60</b>

## AAS Degree General Education Requirements\* 18 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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

- 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 2 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum. . . . . 2

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



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## Human Resources Specialist Certificate

This program is designed for an individual who desires to enter the Human Resources field with a general grounding in Human Resources within a short period of time. The HR Specialist certificate is for an individual who has a background in computer and office skills. The certificate program is transferable to the AAS program.

### Program Requirements

Course		Cr
BUSN 1410	Introduction to Business	3
BUSN 1482	Business Career Resources	2
COMM	Choose a COMM or SPCH course, 1000 level or higher, or ENGL 1711 or higher	3
HMRS 1400	Human Resources Management	3
HMRS 1490	Talent Management	3
HMRS 1510	HR Information Systems & Records	3
HMRS 2410	Employee/Labor Relations	3
HMRS 2420	Employment Law & HR Policies	3
<b>Subtotal</b>		<b>23</b>
<b>Business Electives, choose 6 Credits from the following</b>		<b>6</b>
BTEC XXXX	Business Elective	3
BUSNXXXX	Business Management Elective	3
HMRS 2591	Human Resources Internship	3
<b>Total Program Credits</b>		<b>29</b>

## Human Resources Professional Certificate

This online certificate is designed for an individual who is currently working in the Human Resource field or has management background dealing with HR issues. This accelerated program is offered completely through distance learning. Program advisor approval is needed prior to entrance into this program. This certificate program is transferable to the Human Resources AAS degree.

### Program Requirements

Course		Cr
HMRS 1400	Human Resource Management	3
HMRS 1490	Talent Management	3
HMRS 1510	HR Information Systems & Records	3
HMRS 1520	Compensation & Benefits Administration	3
HMRS 2420	Employment Law & HR Policies	3
<b>Total Program Credits</b>		<b>15</b>



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

## International Trade

International Trade Specialist AAS Degree . . . 60 Credits  
 International Trade Professional Certificate . . . 15 Credits

Program Advisor approval is needed prior to entrance into the certification program. This certificate is transferable to the AAS program.

### 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 that 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, 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.

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 Specialists 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 Specialist AAS Degree

## Program Requirements

Required Business Core		Cr
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
<b>Required Business Core</b>		<b>16</b>

Course		Cr
BSLM 1410	Transportation Management	3
BSLM 1510	Distribution Management	3
BUSN 1482	Business Career Resources	2
INTL 1400	Introduction to International Business	3
INTL 1410	International Communications and Cultural Awareness	3
INTL 1512	Export Shipping and Compliance	3
INTL 2420	U.S. Customs and Importing	3
INTL 2520	International Business Law	3
INTL 2530	International Marketing	3
<b>Business Elective</b>		<b>2</b>
<b>Subtotal</b>		<b>28</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education</b>		<b>16</b>
(ECON 1720 Macroeconomics <b>OR</b> ECON 1730 Microeconomics is required)		
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

**Goal 1: Communication**  
ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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**  
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**

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

# International Trade Professional Certificate\*

## Program Requirements

Course		Cr
INTL 1410	International Communication and Cultural Awareness	3
INTL 1512	Export Shipping and Compliance	3
INTL 2420	U. S. Customs and Importing	3
INTL 2520	International Business Law	3
INTL 2530	International Marketing	3
<b>Total Program Credits</b>		<b>15</b>

\* Program Advisor approval required

## Marketing

Marketing AAS Degree . . . . . 60 credits  
Marketing Certificate . . . . . 28 credits

### Program Overview

This program prepares individuals to become marketing professionals. Students will learn how to market a business that will add economic and cultural value within a community. Students will develop business and marketing plans that address financial, managerial and operational aspects.

### Career Opportunities

Employment opportunities are excellent for skilled and capable marketers. Marketing opportunities include Sales Representative, Communication Specialist, Customer Service Representative, Marketing Specialist and Assistant Account Executive.

### Program Outcomes

1. Graduates will have skills, knowledge and abilities in core business functions including accounting, marketing and management.
2. Graduates will have an understanding of how to market product and services.
3. Graduates will have knowledge and skills to attract new customers and retain existing customers.
4. Graduates will have successfully mastered the general education required for work and life roles.



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## Marketing AAS Degree

### Program Requirements

Required Business Core		Cr
<b>Professional Component</b>		
ACCT 1411	Principles of Accounting 1	4
BTEC 1445	Business Communications	3
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BUSN 2470	Legal Environment of Business	3
BUSN 1410	Introduction to Business	3
<b>Required Business Core</b>		<b>16</b>
Course		Cr
BUSN 1440	Marketing Principles	3
BUSN 1441	Consumer Behavior	3
BUSN 1444	Advertising and Promotional Strategies	3
BUSN 1447	Sales and Sales Management	2
HSPM 2420	Hospitality Marketing and Sales	3
HSPM 1440	Event Management and Planning	3
INTL 2530	International Marketing	3
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
BUSN 1482	Business Career Resources	2
<b>Subtotal</b>		<b>28</b>
<b>Required Business Core</b>		<b>16</b>
<b>General Education Requirements</b>		<b>16</b>
(ECON 1720 Macroeconomics <b>OR</b> ECON 1730 Microeconomics is Recommended)		
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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

- 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

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



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## Marketing Certificate

### Program Requirements

Course		Cr
BUSN 1440	Marketing Principles	3
BUSN 1441	Consumer Behavior	3
BUSN 1444	Advertising and Promotional Strategies	3
BUSN 1447	Sales and Sales Management	2
BUSN 1448	Retailing Principles	3
HSPM 1440	Event Management and Planning	3
INTL 2530	International Marketing	3
BUSN 2450	Management Fundamentals	3
BUSN 2472	Business Negotiation Skills	3
BUSN 1482	Business Career Resources	2
<b>Total Program Credits</b>		<b>28</b>

## Supply Chain Logistics

Supply Chain Logistics AAS Degree . . . . . 60 Credits

Supply Chain Logistics

Advanced Technical Certificate . . . . . 19 Credits

### Program Overview

Logistics management is concerned with the procurement, 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 to understand modern supply chain management. Supply chain management demands a multidisciplinary and cross-functional approach to business that transcends the traditional functional boundaries and management disciplines that characterize many organizations.

The certificate is transferable to the AAS Degree.

### Career Opportunities

Supply Chain Logistics 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.

## Supply Chain Logistics AAS Degree

### Program Requirements

#### Required Business Core Cr

#### Professional Component

ACCT 1411	Principles of Accounting 1	4
BTEC 1421	Business Information Applications 1 <b>OR</b>	
CSCI 2410	Management Information Systems	3
BTEC 1445	Business Communications	3
BUSN 1410	Introduction to Business	3
BUSN 2470	Legal Environment of Business	3
	<b>Required Business Core</b>	<b>16</b>

#### 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 1482	Business Career Resources	2
BUSN 2472	Business Negotiation Skills	3
INTL 1512	Export Shipping and Compliance	3
INTL 2420	U. S. Customs and Importing	3
	<b>Subtotal</b>	<b>27</b>
	<b>Required Business Core</b>	<b>16</b>
	<b>General Education Requirements</b>	<b>17</b>
	(ECON1720 Macroeconomics <b>OR</b> ECON1730 Microeconomics is required)	
	<b>Total Program Credits</b>	<b>60</b>

#### AAS Degree General Education Requirements\* 17 Credits

Students are required to complete ENGL 1711 and a Speech Course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

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 1 additional credit from  
Goals 1-10 of the Minnesota Transfer Curriculum. . . . . 1

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

## Supply Chain Logistics Advanced Technical Certificate

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

### 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
	<b>Total Program Credits</b>	<b>19</b>

## Health Information Technology and Medical Office Careers

Health Information Technology AAS Degree* . . . . .	65 Credits
Medical Office Professional AAS Degree . . . . .	60 Credits
Medical Coding Certificate . . . . .	30 Credits
Medical Records Clerk Certificate . . . . .	17 Credits
Medical Receptionist Certificate . . . . .	20 Credits
Medical Transcriptionist Certificate . . . . .	30 Credits

\* The Health Information Technology AAS Degree Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education ([www.cahiim.org](http://www.cahiim.org))

### 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 Healthcare Organization (JCAHO) and Medicare.

Individuals enrolled in the program will obtain a broad body of knowledge that 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.

**Program 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 of a Commission on Accreditation of Health Informatics and Information Management accredited Health Information Technology program are eligible to apply to write the American Health Information Management Association, Registered Health Information Technician (RHIT) certification examination.

## Health Information Technology AAS Degree

**Program Requirements**

<b>Program Prerequisites</b>		<b>Cr</b>
<b>Professional Component</b>		
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3
<b>Course</b>		<b>Cr</b>
BTEC 1421	Business Information Applications 1	3
BUSN 1482	Business Career Resources	2
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 the Medical Office	2
MEDS 2432	Alternative Health Record Systems	2
MEDS 2434	Legal and Ethical 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
<b>Subtotal</b>		<b>45</b>
<b>General Education</b>		<b>20</b>
<b>Total Program Credits</b>		<b>65</b>

**AAS Degree General Education Requirements\***

**20 Credits**

<i>Students are required to complete ENGL 1711 and a speech course from Goal 1. . . . .</i>		<i>7</i>
<b>Goal 1: Communication</b>		
ENGL 1711 Composition 1 – 4 cr		
SPCH XXXX – 3 cr (Goal 1 only)		
<i>Select a minimum of 3 credits from Goal 3 . . . . .</i>		<i>3</i>
<b>Goal 3: Natural Sciences</b>		
<i>Select a minimum of 3 credits from Goal 5 . . . . .</i>		<i>3</i>
<b>Goal 5: History, Social Science and Behavioral Sciences</b>		
<i>Select a minimum of 3 credits from Goal 6 . . . . .</i>		<i>3</i>
<b>Goal 6: Humanities and Fine Arts</b>		
<i>Select a minimum of 4 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum . . . . .</i>		<i>4</i>

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

## Medical Office Careers

### Program Overview

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 needed 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 Requirements

Program Prerequisites		Cr
<b>Professional Component</b>		
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3
Course		Cr
BTEC 1410	Advanced Keyboarding Applications	3
BTEC 1421	Business Information Applications 1	3
BTEC 1423	Business Information Applications 2	4
BTEC 1445	Business Communications	3
BUSN 1480	Career Resources	1
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 1560	Computerized Health Information	3
MEDS 1570	Human Disease	3
MEDS 2430	Pharmacology for the Medical Office	2
<b>Subtotal</b>		<b>37</b>
<b>Electives</b>		<b>3</b>
(Select 3 credits of electives from any Business career program with advisor approval)		
<b>General Education Requirements</b>		<b>20</b>
(Select at least 20 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\*

20 Credits

Students are required to complete ENGL 1711 and a speech course from Goal 1. . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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 Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3

Course		Cr
BTEC 1421	Business Information Applications 1	3
BUSN 1480	Career 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 1570	Human Disease	3
MEDS 2430	Pharmacology for the Medical Office	2
MEDS 2460	ICD-9-CM Coding	3
MEDS 2470	CPT-4 Coding	3
MEDS 2480	Advanced Coding	3
<b>Total Program Credits</b>		<b>30</b>

## Medical Records Clerk Certificate

### Program Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3

Course		Cr
BTEC 1421	Business Information Applications 1	3
BTEC 1530	Communication Technology	4
BUSN 1480	Career Resources	1
MEDS 1420	Health Information Foundations	3
MEDS 1480	Medical Terminology	3
MEDS 1560	Computerized Health Information	3
<b>Total Program Credits</b>		<b>17</b>

## Medical Receptionist Certificate

### Program Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3

Course		Cr
BTEC 1421	Business Information Applications 1	3
BTEC 1530	Communication Technology	4
BUSN 1480	Career 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
<b>Total Program Credits</b>		<b>20</b>

## Medical Transcriptionist Certificate

### Program Requirements

Program Prerequisites		Cr
BTEC 1400	Keyboarding	2
BTEC 1418	Computer Fundamentals	3

Course		Cr
BTEC 1421	Business Information Applications 1	3
BUSN 1480	Career Resources	1
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 1560	Computerized Health Information	3
MEDS 1570	Human Disease	3
MEDS 2430	Pharmacology for the Medical Office	2
<b>Total Program Credits</b>		<b>30</b>



# Computer Programs

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## Computer Graphics and Visualization Careers 72

Computer Graphics and Visualization AS Degree  
Visualization Technology AAS Degree  
Metaverse Application Design AAS Degree  
**NEW!** Cloud Computing and Virtualization Administrative Certificate  
**NEW!** Computer Animation Certificate  
**NEW!** Digital Photography Certificate  
Visualization Technology Certificate  
Web Design Certificate

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## Computer – Management Information Systems 75

Management Information Systems AS Degree

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## Computer Network Careers 76

Computer Network Engineering Specialist AS Degree  
Computer Network Engineering AAS Degree  
Network Administration Certificate

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## Computer Programming 78

Computer Programming AS Degree  
Computer Programming AAS Degree  
Metaverse Application Development AAS Degree  
Java Programming Certificate  
J2EE Application Development Certificate  
**NEW!** Programming Mobile Applications Certificate  
Web Development Certificate  
Web 2.0 Development Certificate

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## Computer Science 81

Computer Science AS Degree

# Computer Graphics and Visualization Careers

Computer Graphics and Visualization	
AS Degree . . . . .	60 Credits
Visualization Technology AAS Degree . . . . .	60 Credits
Metaverse Application Design AAS Degree . . . . .	60 Credits
Cloud Computing and Virtualization	
Administrative Certificate . . . . .	16 Credits
Computer Animation Certificate . . . . .	12 Credits
Digital Photography Certificate . . . . .	16 Credits
Visualization Technology Certificate . . . . .	21 Credits
Web Design Certificate . . . . .	18 Credits

## Program Overview

This program prepares students for jobs in the exciting computer graphics and animation 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 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 and Visualization AS Degree

## Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1450	Web Fundamentals/HTML	4
DGIM 1443	Dreamweaver 1	2
DGIM 1448	Adobe Flash 1	2
DGIM 1483	Photoshop 1	2
DGIM 2570	Digital Photography 1	2
DGIM 2572	Computer Animation 1	2
DGIM 2586	Digital Sound	2
DGIM 2587	Digital Video 1	2
DGIM 2600	Computer Graphics 1	4
<b>Subtotal</b>		<b>26</b>
<b>Technical Electives</b>		<b>4</b>
Any 2 credit DGIM or CSCI		
<b>General Education Requirements</b>		<b>30</b>
(Select at least 30 credits of General Education according to the Requirements listed below)		
<b>Total Program Requirements</b>		<b>60</b>

## AS Degree General Education Requirements\*

**30 Credits**

*Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . .* 7

### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

*Select a minimum of 7 credits from Goal 4 . . . . .* 7

### Goal 4: Mathematical/Logical Reasoning

- MATH 1730 College Algebra – 3 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

- ARTS 1710 Fundamentals of Photography 1 – 3 cr highly recommended

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

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

## Visualization Technology AAS Degree

### Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1470	Web Design	4
DGIM 1443	Dreamweaver 1	2
DGIM 1444	Dreamweaver 2	2
DGIM 1448	Adobe Flash 1	2
DGIM 1449	Adobe Flash 2	2
DGIM 1483	Photoshop 1	2
DGIM 1484	Photoshop 2	2
DGIM 2560	Illustrator	4
DGIM 2569	Digital Portfolio Development	2
DGIM 2587	Digital Video 1	2
DGIM 2588	Digital Video 2	2
DGIM 2600	Computer Graphics 1	4
<b>Subtotal</b>		<b>38</b>
<b>Technical Electives</b>		<b>2</b>
Any 2 credit DGIM or CSCI		
<b>General Education Requirements</b>		<b>20</b>
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\*

20 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

#### Goal 4: Mathematics/Logical Reasoning

MATH 1730 College Algebra – 3 cr

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

ARTS 1710 Fundamentals of Photography  
1 – 3 cr is recommended

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.

## Metaverse Application Design AAS Degree

### Program Overview

This program prepares students for jobs in the exciting computer graphics and animation field. Students will learn how to take an idea from concept through production including computer graphics, computer animation, sound and video. Computer Graphics Specialists work in a wide variety of creative jobs including web design, film and animation production, metaverse design 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.

### Career Opportunities

Career Opportunities exist for both freelance designers and full time positions in web design, computer animation, computer game design, metaverse design and multimedia development.

### Program Outcomes

1. Graduates will have knowledge and skills in the area of multimedia and computer graphics design.
2. Graduates will have knowledge and experience in the latest software applications used in their field by design professionals.
3. Graduates of the Visualization Programs will be prepared for employment in the rapidly changing areas of digital graphics and multimedia technologies.
4. Graduates will be prepared to demonstrate both traditional and digital portfolios to potential employers.

### Program Requirements

Course		Cr
CSCI 1410	Computer Science & Information Systems	4
CSCI 1450	Web Fundamentals/HTML	4
CSCI 2562	Metaverse Based Computer Games	4
DGIM 1483	Photoshop 1	2
DGIM 1484	Photoshop 2	2
DGIM 1485	Second Life Basics	2
DGIM 2500	Metaverse Graphic Design 1	4
DGIM 2502	Metaverse Graphic Design 2	4
DGIM 2510	Metaverse Application Design	4
DGIM 2570	Digital Photography 1	2
DGIM 2571	Digital Photography 2	2
DGIM 2586	Digital Sound	2
DGIM 2587	Digital Video 1	2
DGIM 2588	Digital Video 2	2
DGIM 2702	Metaverse Design Capstone	4
<b>Subtotal</b>		<b>44</b>
<b>General Education Requirements</b>		<b>16</b>
<b>Total Program Credits</b>		<b>60</b>

**AAS Degree General Education Requirements\*** **16 Credits**

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

**Goal 1: Communication**

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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**

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

## Cloud Computing & Virtualization Administrative Certificate\*\*

### Program Overview

This certificate is a 16 credit program designed to introduce the student to the practices and principles of server virtualization and cloud based computing. Students in this course will be introduced in a practical hands-on manner to the ideas, technical infrastructure and administrative requirements of server based computing utilizing both open source and propriety virtualization software. VmWare, Virtual Box, VirtualPC and other implementations will be covered in detail.

### Program Requirements

Course		Cr
CSCI 1423	Computer Networking 1 – Client	4
CSCI 1440	Networking Fundamentals	4
CSCI 2452	Cloud Computing	4
CSCI 2453	Computer Virtualization	4
<b>Total Program Credits</b>		<b>16</b>

\*\*pending approval

## Computer Animation Certificate\*\*

### Program Overview

The Computer Animation Certificate is intended to give students the skills needed to work as a digital animator. The classes required for this certificate will have students learning the most up-to-date animation and video software packages, including 3D Studio Max, Mudbox, Blender, Flash, Premiere Pro and other applications. Intensive hands-on participation will be stressed in creating 3D models, animations, and scenes. Emphasis is placed on practical, real-world application of their skills. Upon certificate completion, students will have multiple short animation projects suitable for a portfolio or demo reel.

## Career Opportunities

Many career opportunities exist in the computer animation field, particularly for individuals with extensive portfolios. Jobs exist in the video game industry, web design and advertising focused on emerging technologies. Many computer animators begin their career as self-employed, freelancers, in order to expand their personal portfolio.

### Program Requirements

Course		Cr
DGIM 2572	Computer Animation 1	2
DGIM 2573	Computer Animation 2	2
DGIM 2574	Computer Animation 3	2
DGIM 2587	Digital Video 1	2
<b>Subtotal</b>		<b>8</b>
<b>Technical Electives</b>		<b>4</b>
Any 4 credits from DGIM		
<b>Total Program Credits</b>		<b>12</b>

\*\*pending approval

## Digital Photography Certificate\*\*

### Program Overview

This program prepares students for jobs in the exciting field of photography. Besides learning the leading photo editing program on the market today (Adobe Photoshop CS5) the student will learn how to use their camera to create almost any type of picture they desire. This course covers topics from understanding their camera, to a wide variety of photographic techniques preparing the student for any type of photographic opportunity they may have.

The student needs to be creative, have excellent communication skills, have patience, meet deadlines, and be able to work independently or as a team member.

### Career Opportunities

- Entry Level Photographer
- Studio Photographer
- Fine Art Photographer
- Freelance Photographer

### Program Outcomes

1. Graduates will have knowledge of Adobe Photoshop CS5.
2. Graduates will have the knowledge of how to use their camera in a wide variety of circumstances.
3. Graduates will have the knowledge of how to create theme projects and present them.
4. Graduates will have the knowledge to create a wide variety of creative projects.
5. Graduates will have the knowledge and skill to demonstrate their creative talents through photography.

6. Graduates of this certificate program may choose to continue their education and work toward their 2 or 4 year degree.

### Program Requirements

Course		Cr
DGIM 1483	Photoshop 1	2
DGIM 1484	Photoshop 2	2
DGIM 2570	Digital Photography 1	2
DGIM 2571	Digital Photography 2	2
DGIM 2580	Advanced Digital Photography	4
<b>Subtotal</b>		<b>12</b>
<b>Technical Electives</b>		<b>4</b>
<b>Total Program Credits</b>		<b>16</b>

\*\*pending approval

## Visualization Technology Certificate

### Program Overview

This certificate program is a series of entry level courses that are part of the Visualization Technology AAS degree at Saint Paul College. The certificate option is available for students who may not choose to complete the entire AAS degree and gain some experience with courses used in computer graphics, particularly courses in the Adobe software suite.

### Program Requirements

Course		Cr
DGIM 1443	Dreamweaver 1	2
DGIM 1448	Adobe Flash 1	2
DGIM 1483	Photoshop 1	2
DGIM 2560	Illustrator	4
DGIM 2570	Digital Photography 1	2
DGIM 2600	Computer Graphics 1	4
<b>Subtotal</b>		<b>16</b>
<b>Technical Electives</b>		<b>2</b>
Any 2 credit DGIM or CSCI		
<b>General Education Requirements</b>		<b>3</b>
(Select any ARTS course)		
<b>Total Program Credits</b>		<b>21</b>

## Web Design Certificate

### Program Requirements

Course		Cr
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1470	Web Design	4
CSCI 2440	Internet Programming 1 – Client Side	4
DGIM 1443	Dreamweaver 1	2
DGIM 1448	Adobe Flash 1	2
DGIM 2570	Digital Photography 1	2
<b>Total Program Credits</b>		<b>18</b>

## Computer – Management Information Systems

### Management Information Systems

AS Degree . . . . . 60 Credits

### Program Overview

The Associate in Science Degree in Management Information Systems 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 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 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 Management Information Systems or a 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 1550	Database Management Fundamentals	4
CSCI 2410	Management Information Systems	3
CSCI 2430	Information Systems Project Mgmt.	4
CSCI 2690	Computer Science Internship	1
<b>Subtotal</b>		<b>30</b>
<b>General Education Requirements</b>		<b>30</b>
(Select at least 30 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\* 30 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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 2749 Calculus 1 – 4 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 . . . . .	60 Credits
Computer Network Engineering AAS Degree . . . . .	60 Credits
Network Administration Certificate . . . . .	20 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 communication 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, 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
CSCI 1410 Computer Science & Information Systems	4
CSCI 1423 Computer Networking 1 – Client	4
CSCI 1440 Networking Fundamentals	4
CSCI 1521 Structures of Computer Programming 1	4
CSCI 2418 Computer Security Fundamentals	2
CSCI 2451 Computer Networking 2 – Server	4
CSCI 2461 Computer Networking 3 – Linux/Unix	4
CSCI 2465 Computer Networking 4 – Infrastructure	4
<b>Subtotal</b>	<b>30</b>
<b>General Education Requirements</b>	<b>30</b>
(Select at least 30 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>60</b>

### AS Degree General Education Requirements\* 30 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

Students are required to complete Math 1730 and 1740 from Goal 4 . . . . . 7

#### Goal 3: Natural Sciences

#### Goal 4: Mathematical/Logical Reasoning

- MATH 1730 College Algebra – 3 cr
- MATH 1740 Intro to Statistics – 4 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

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
CSCI 1410 Computer Science & Information Systems	4
CSCI 1423 Computer Networking 1 – Client	4
CSCI 1440 Networking Fundamentals	4
CSCI 1450 Web Fundamentals/HTML	4
CSCI 1521 Structures of Computer Programming 1	4
CSCI 2420 Computer Security	4
CSCI 2430 Information Systems Project Management	4
CSCI 2451 Computer Networking 2 – Server	4
CSCI 2461 Computer Networking 3 – Linux/Unix	4
CSCI 2465 Computer Networking 4 – Infrastructure	4
CSCI 2475 A+ Hardware/Operating System Prep	4
<b>Subtotal</b>	<b>44</b>
<b>General Education Requirements</b>	<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>60</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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

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

## Network Administration Certificate

### Program Requirements

Course	Cr
CSCI 1423 Computer Networking 1 – Client	4
CSCI 1440 Networking Fundamentals	4
CSCI 2451 Computer Networking 2 – Server	4
CSCI 2461 Computer Networking 3 – Linux/Unix	4
CSCI 2465 Computer Networking 4 – Infrastructure	4
<b>Total Program Credits</b>	<b>20</b>

# Computer Programming

Computer Programming AS Degree . . . . .	60 Credits
Computer Programming AAS Degree . . . . .	60 Credits
Metaverse Application Development AAS Degree . . . . .	60 Credits
Java Programming Certificate . . . . .	16 Credits
J2EE Application Development Certificate . . .	16 Credits
Programming Mobile Applications Certificate .	16 Credits
Web Development Certificate . . . . .	16 Credits
Web 2.0 Development 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 earnings 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 AS Degree

## Program Requirements

<b>Course</b>	<b>Cr</b>
CSCI 1403    Operating System Development Platforms	2
CSCI 1410    Computer Science & Information Systems	4
CSCI 1450    Web Fundamentals\HTML	4
CSCI 1521    Structures of Computer Programming 1	4
CSCI 1541    Java Programming 1	4
CSCI 2463    XML Programming	4
<b>Subtotal</b>	<b>22</b>
<b>Select one of the emphases listed below</b>	<b>12</b>
<b>General Education Requirements</b>	<b>26</b>
(Select at least 26 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>60</b>

### Java Emphasis

<b>Course</b>	<b>Cr</b>
CSCI 1542    Java Programming 2	4
CSCI 1550    Database Management Fundamentals	4
<b>Select 1 of the following courses</b>	<b>4</b>
CSCI 2466    J2EE-JSP and Servlets	4
CSCI 2467    J2EE Application Development	4
<b>Total Emphasis Credits</b>	<b>12</b>

### Web Development Emphasis

<b>Course</b>	<b>Cr</b>
CSCI 1470    Web Design	4
CSCI 2440    Internet Programming 1 – Client Side	4
<b>Select 1 of the following courses</b>	<b>4</b>
CSCI 2442    Internet Programming 2 – Server Side	4
CSCI 2622    Web 2.0 – AJAX	4
<b>Total Emphasis Credits</b>	<b>12</b>

### AS Degree General Education Requirements\*

**26 Credits**

*Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7*

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

*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 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 Programming AAS Degree

## Program Requirements

Course	Cr
CSCI 1403 Operating System Development Platforms	2
CSCI 1410 Computer Science & Information Systems	4
CSCI 1450 Web Fundamentals/HTML	4
CSCI 1521 Structures of Computer Programming 1	4
CSCI 1541 Java Programming 1	4
CSCI 1550 Database Management Fundamentals	4
CSCI 2463 XML Programming	4
CSCI XXXX Technical Elective	4
CSCI 2690 Computer Science Internship	2

**Subtotal** 32

**Select one of the emphases listed below** 12

**General Education Requirements** 16

(Select at least 16 credits of General Education according to the requirements listed below)

**Total Program Credits** 60

### Web Development Emphasis

Course	Cr
CSCI 1470 Web Design	4
CSCI 2440 Internet Programming 1 – Client Side	4

**Select 1 of the following courses** 4

CSCI 2442 Internet Programming 2 – Server Side 4

CSCI 2622 Web 2.0 – AJAX 4

**Total Emphasis Credits** 12

### Java Emphasis

Course	Cr
CSCI 1542 Java Programming 2	4
CSCI 2466 J2EE-JSP and Servlets	4
CSCI 2467 J2EE Application Development	4

**Total Emphasis Credits** 12

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

#### Goal 3: Natural Sciences

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.

# Metaverse Application Development

## 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 communication 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 earnings 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 design and code production software applications.
2. Graduates will analyze complex organizational problems and create design specifications to address these problems.
3. Graduates will 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.

## Metaverse Application Development AAS Degree

### Program Requirements

Course	Cr	
CSCI 1410	Computer Science & Information Systems	4
CSCI 1450	Web Fundamentals/HTML	4
CSCI 1521	Structures of Comp Programming 1	4
CSCI 1522	Structures of Comp Programming 2	4
CSCI 2562	Metaverse Based Computer Games	4
CSCI 2630	Metaverse App Development	4
CSCI 2632	Metaverse Graphics Programming	4
CSCI 2710	Metaverse App Development Capstone	4
DGIM 2500	Metaverse Graphic Design 1	4
DGIM 2570	Digital Photography 1	2
DGIM 2587	Digital Video 1	2
DGIM 2600	Computer Graphics 1	4
<b>Subtotal</b>		<b>44</b>
<b>General Education Requirements</b>		<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>60</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

**Goal 1: Communication**  
ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

Select a minimum of 3 credits from Goal 3 or Goal 4 . . . . . 3  
**Goal 3: Natural Sciences**

Select a minimum of 3 credits from Goal 5 . . . . . 3  
**Goal 4: Mathematical/Logical Reasoning**

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

## Java Programming 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 1450	Web Fundamentals/HTML	4
CSCI 1541	Java Programming 1	4
CSCI 1542	Java Programming 2	4
<b>Select 1 of the following courses</b>		<b>4</b>
CSCI 2463	XML Programming	4
CSCI 2466	J2EE-JSP and Servlets	4
CSCI 2467	J2EE Application Development	4
<b>Total Program Credits</b>		<b>16</b>

## 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
<b>Select 2 of the following courses:</b>		<b>8</b>
CSCI 2463	XML Programming	4
CSCI 2466	J2EE-JSP and Servlets	4
CSCI 2467	J2EE Application Development	4
<b>Total Program Credits</b>		<b>16</b>

## Programming Mobile Applications Certificate\*\*

### Program Overview

This certificate is a 16 credit program designed to introduce the student to programming approaches to mobile devices such as iPhone, Droid, iPad, and others. Students in this certificate will learn programming for mobile phone, iTouch type devices, and the server infrastructure needed to support them.

### Program Requirements

Course	Cr	
CSCI 1531	C/C++ Programming 1	4
CSCI 2605	Web 2.0 Technologies	4
CSCI 2628	Programming the i-Device	4
CSCI 2629	Programming Android Devices	4
<b>Total Program Credits</b>		<b>16</b>

\*\*pending approval

## Web 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 1450	Web Fundamentals/HTML	4
CSCI 1470	Web Design	4
CSCI 2463	XML Programming	4
<b>Select 1 of the following courses:</b>		<b>4</b>
CSCI 2440	Internet Programming 1 – Client Side	4
CSCI 2442	Internet Programming 2 – Server Side	4
CSCI 2622	Web 2.0 – AJAX	4
<b>Total Program Credits</b>		<b>16</b>

## Web 2.0 Development

### Program Overview

The technical underpinnings of Web 2.0 have evolved into a set of related technologies that are changing the use of the Web from an “inquiry-response” paradigm to a “dialog-collaborative” paradigm. This program defines technologies relevant to Web 2.0 and provides instruction in their usage and deployment. This certificate will introduce students to the multimedia and gaming environment and prepare students for “open source” and “digital web” certification.

## Web 2.0 Development Certificate

### Program Requirements

Course	Cr
CSCI 2605 Web 2.0 Technologies	4
<b>Select 12 credits from the following courses:</b>	<b>12</b>
CSCI 2610 Web 2.0 Multimedia Tools	4
CSCI 2615 Web 2.0 Open Source Software Foundations	4
CSCI 2620 Web 2.0 Programming Paradigms and Software Tools	4
CSCI 2621 Web 2.0 – RUBY on Rails	4
CSCI 2622 Web 2.0 – AJAX	4
<b>Total Program Credits</b>	<b>16</b>

## Computer Science

Computer Science AS Degree . . . . . 60 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 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

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 1403 Operating System Development Platforms	2
CSCI 1410 Computer Science & Information Systems	4
CSCI 1521 Structures of Computer Programming 1	4
CSCI 1522 Structures of Computer Programming 2	4
CSCI 1541 Java Programming 1	4
<b>Select two courses (8 credits) from the following:</b>	<b>8</b>
CSCI 2460 Discrete Structures of Computer Science	4
CSCI 2570 Machine Architecture and Organization	4
CSCI 2580 Introduction to Numerical Computing	4
<b>Subtotal</b>	<b>26</b>
<b>General Education Requirements</b>	<b>34</b>
(Select at least 34 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>60</b>

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

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

- Goal 1: Communication**  
 ENGL 1711 Composition 1 – 4cr  
 SPCH XXXX – 3 cr (Goal 1 only)

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

- Goal 3: Natural Sciences**  
 PHYS 2700 General Physics 1 – 5 cr  
 PHYS 2710 General Physics 2 – 5 cr

- Goal 4: Mathematical/Logical Reasoning**  
 MATH 2749 Calculus 1 – 4 cr  
 MATH 2750 Calculus 2 – 4 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.

# Health and Service Programs

## Child Development Careers

84

Child Development Careers Certificate  
Child Development Careers Diploma  
Child Development Careers AAS Degree  
Child Development Careers ASL AS Degree  
Child Development Careers AS Degree  
Child Development Administration Advanced Technical Certificate

## Cosmetology Careers

86

Cosmetology AAS Degree  
Cosmetology Diploma  
Nail Care Technician Certificate

## Culinary Arts

89

Culinary Arts AAS Degree  
Culinary Arts Diploma  
Baking and Decorating Certificate  
Restaurant Management Certificate  
Short Order Cooking Certificate  
Wine Professional Certificate  
**NEW!** Wine and Artisan Foods Certificate

## Esthetics

91

Esthetician AAS Degree  
Esthetician Diploma  
Esthetician Certificate

## Health Unit Coordinator

94

Health Unit Coordinator Certificate  
**NEW!** Nursing Station Technician Certificate

## Health Information Technology

See Health Information Technology and Medical Office Careers in Business section

## Massage Therapy Careers

95

Clinical Sports Massage AAS Degree  
Massage Therapy Certificate  
**NEW!** Clinical Sports Massage Advanced Certificate  
Reflexology Certificate  
Yoga Instructor Training Certificate

## Medical Laboratory Technician

98

Medical Laboratory Technician AAS Degree

# Health and Service Programs

*continued*

<b>Nursing Assistant/Home Health Aide</b>	<b>99</b>
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	Nursing Assistant/Home Health Aide Certificate
<b>Personal Trainer</b>	<b>100</b>
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	Personal Trainer AAS Degree Personal Trainer Diploma
<b>Practical Nursing</b>	<b>101</b>
<hr/>	
	Practical Nursing AAS Degree Practical Nursing Diploma
<b>Respiratory Therapist</b>	<b>103</b>
<hr/>	
	Respiratory Therapist AAS Degree
<b>Watchmaking</b>	<b>104</b>
<hr/>	
	Micro Mechanical Technology Diploma Watchmaking Certificate

# Child Development Careers

Child Development Careers Certificate . . . . . 16 Credits  
 Child Development Careers Diploma . . . . . 32 Credits  
 Child Development Careers AS Degree . . . . . 60 Credits  
 Child Development Careers ASL AS Degree . . 60 Credits  
 Child Development Careers AAS Degree . . . . 62 Credits  
 Child Development 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 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 lab 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 study. 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 2018.

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 a 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, or a Child Life Assistant (working with children in a hospital setting). The ASL/AS program qualifies the graduate to work in the same programs as listed; however, this program has a focus on using ASL in a child development setting.

The Child Development Administration Advanced Technical Certificate is for current early childhood program 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 ability to observe, document, and assess children's learning and development.
4. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.
5. Graduates will have knowledge and will demonstrate skills in family, community, and staff relations.
6. Graduates will conduct themselves as a member of the early childhood profession.
7. Graduates will possess the knowledge and skills for immediate employment in the child development field.
8. Graduates will have successfully mastered the general education program requirements for work and life roles.

## Child Development Careers Certificate

### Program Requirements

Course		Cr
CDEV 1200	Introduction to Early Childhood Education	3
CDEV 1210	Child Growth and Development	3
CDEV 1220	Health, Safety and Nutrition	3
CDEV 1230	Guiding Children's Behavior	3
CDEV 1240	Learning Environment and Curriculum	4
<b>Total Program Credits</b>		<b>16</b>

# Child Development Careers Diploma

## Program Requirements

Course		Cr
CDEV 1200	Introduction to Early Childhood Education	3
CDEV 1210	Child Growth and Development	3
CDEV 1220	Health, Safety and Nutrition	3
CDEV 1230	Guiding Children's Behavior	3
CDEV 1240	Learning Environment and Curriculum	4
CDEV 1316	Observation and Assessment	3
CDEV 2640	Curriculum Planning	3
CDEV 1910	Practicum 1	3
<b>Subtotal</b>		<b>25</b>
ENGL 1711	Composition 1	4
SOCI 17XX	Any may be taken, however	3
SOCI 1720	Social Problems (3 cr) <b>OR</b>	
SOCI 1730	Sociology of Families and Relationships is recommended (3 cr)	
<b>General Education Requirements</b>		<b>7</b>
<b>Total Program Credits</b>		<b>32</b>

# Child Development Careers AS Degree

## Program Requirements

Course		Cr
CDEV 1200	Introduction to Early Childhood Education	3
CDEV 1210	Child Growth and Development	3
CDEV 1220	Health, Safety and Nutrition	3
CDEV 1230	Guiding Children's Behavior	3
CDEV 1240	Learning Environment and Curriculum	4
CDEV 1316	Observation and Assessment	3
CDEV 2640	Curriculum Planning	3
CDEV 1910	Practicum 1	3
CDEV 2320	Children with Differing Abilities	3
CDEV 2600	Organizational Leadership and Management	2
<b>Subtotal</b>		<b>30</b>
<b>General Education Requirements</b> (Select at least 30 credits of General Education according to the requirements below)		<b>30</b>
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\* 30 Credits

Students are required to complete ENGL 1711 and a SPCH course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

SOCI 17XX – any may be taken, however  
SOCI 1720 Social Problems **OR** SOCI 1730  
Sociology of Families & Relationships, is recommended

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 Development Careers ASL AS Degree

## Program Requirements

Course		Cr
CDEV 1200	Introduction to Early Childhood Education	3
CDEV 1210	Child Growth and Development	3
CDEV 1220	Health, Safety and Nutrition	3
CDEV 1230	Guiding Children's Behavior	3
CDEV 1240	Learning Environment and Curriculum	4
CDEV 2320	Children with Differing Abilities	3
CDEV 2560	Language & Literature Learning Experiences	3
CDEV 2599	Practicum 1: Special Settings/ASL	2
ASLS 1411	American Sign Language 1	3
ASLS 1412	American Sign Language 2	3
<b>Subtotal</b>		<b>30</b>
<b>General Education Requirements</b> (ASLS 1413 American Sign Language 3 ASLS 1414 American Sign Language 4 recommended as 6 of the 13 additional credits from goals 1-10)		<b>30</b>
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\* 30 Credits

Students are required to complete ENGL 1711 and a SPCH course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

SOCI 17XX – any may be taken, however  
SOCI 1720 Social Problems **OR**  
SOCI 1730 Sociology of Families & Relationships, is recommended

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 Development Careers AAS Degree

### Program Requirements

Course	Cr	
CDEV 1200	Introduction to Early Childhood Education	3
CDEV 1210	Child Growth and Development	3
CDEV 1220	Health, Safety and Nutrition	3
CDEV 1230	Guiding Children's Behavior	3
CDEV 1240	Learning Environment and Curriculum	4
CDEV 1316	Observation and Assessment	3
CDEV 2640	Curriculum Planning	3
CDEV 1910	Practicum 1	3
CDEV 2320	Children with Differing Abilities	3
CDEV 2600	Organizational Leadership and Management	2
CDEV 2560	Language & Literature Learning Experiences OR CDEV 2550 Math, Science, and Technology for Young Children	3
CDEV 2610	Practicum 2	3
	<b>Subtotal</b>	<b>36</b>
	<b>Electives: Choose a minimum of 6 credits from the following Technical Electives:</b>	<b>6</b>
CDEV 2520	The Peaceful Classroom	3
CDEV 2530	Children with Challenging Behaviors	3
CDEV 2550	Math, Science, and Technology for Young Children	3
CDEV 2560	Language & Literature Learning Experiences	3
CDEV 2570	Working with Diverse Children and Families	3
CDEV 2580	Creative Development & Learning Experiences	3
CDEV 2590	Social-Emotional Development and Learning Experiences	3
CDEV 2597	Special Topics	1-4
	<b>General Education Requirements</b> (Select at least 20 credits of General Education according to the requirements listed below)	<b>20</b>
	<b>Total Program Credits</b>	<b>62</b>

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

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

SOCI 17XX any may be taken, however  
SOCI 1720 Social Problems **OR** SOCI 1730 Sociology of Families & Relationships, is recommended

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.

## Child Development Administration Advanced Technical Certificate

### Program Requirements

Course	Cr	
CDEV 2800	Child Development Administration	3
CDEV 2820	Child Development Financial Management	3
CDEV 2840	Child Development Staffing & Supervision	3
CDEV 2860	Advanced Internship – Administration of a Child Development Setting	1
	<b>Total Program Credits</b>	<b>10</b>

Note: For this certificate please see the Child Development program advisor.

## Cosmetology Careers

Cosmetology AAS Degree . . . . .	72 Credits
Cosmetology Diploma . . . . .	59 Credits
Nail Care Technician Certificate . . . . .	16 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 essential.

### 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 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 exam given through the State designated testing service and skills certification, they are eligible for licensure through the Minnesota Board of Cosmetologist Examiners. Cosmetologists work in a variety of settings including beauty salons and full-service spas.

After Nail Technician students complete 350 hours of skills and theory training and pass the written exam given through the State designated testing service, and skills certification, they are eligible for licensure from the Minnesota Board of Cosmetologist Examiners. Nail technicians work in beauty salons, nail salons and spas.

### Program Outcomes (Cosmetology)

1. Graduates will be prepared to take the skills certification.
2. Graduates will be prepared to take the Minnesota State Cosmetology written exam and state law test administered through the State designated testing service (access through [www.bceboard.state.mn.us](http://www.bceboard.state.mn.us)).
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 employment as Cosmetologists.
6. Graduates will have successfully mastered the general education program requirements for work and life roles.

### Program Outcomes (Nail Technician)

1. Graduates will be prepared to take the skills certification.
2. Graduates will be prepared to take the Minnesota State written exam and state law test administered through the State designated testing service (access through [www.bceboard.state.mn.us](http://www.bceboard.state.mn.us)).
3. Graduates will possess knowledge and skills for manicures, pedicures and application of artificial nails.

Saint Paul College's Cosmetology Program is a Pivot Point Member School

Pivot Point International Inc,  
1560 Sherman Avenue Suite 700  
Evanston, IL 60201  
1.800.886.4247  
[www.pivot-point.com](http://www.pivot-point.com)

**pivot point.**  
MEMBER SCHOOL

## Cosmetology AAS Degree

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1405	Preclinic Hair Care 1	3
CHSN 1406	Preclinic Hair Care 2	3
CHSN 1407	Preclinic Nail Care	3
CHSN 1409	Preclinic Chemical Control	3
CHSN 1413	Preclinic Hair Color	3
CHSN 1418	Advanced Hair Care	4
CHSN 1445	Cosmetic Chemistry & Makeup Applications	4
CHSN 1450	Skin Analysis & Massage	4
CHSN 1431	Clinic 1 for Cosmetology Majors	3
CHSN 1432	Clinic 2 for Cosmetology Majors	3
CHSN 1433	Clinic 3 for Cosmetology Majors	3
CHSN 1434	Clinic 4 for Cosmetology Majors	3
CHSN 1435	Clinic 5 for Cosmetology Majors	3
CHSN 1436	Clinic 6 for Cosmetology Majors	3
<b>Subtotal</b>		<b>53</b>
<b>Required Technical Electives</b>		<b>3</b>
Must select at least 3 credits from the following technical electives to complete the required 1550 hours needed for licensure:		
CHSN 1451	Salon Operations 1 for Cosmetology/Nail Technician Majors	1
CHSN 1452	Salon Operations 2 for Cosmetology/Nail Technician Majors	2
CHSN 1453	Salon Operations 3 for Cosmetology/Nail Technician Majors	3
CHSN 1454	Salon Operations 4 for Cosmetology/Nail Technician Majors	4
CHSN 1455	Salon Operations 5 for Cosmetology/Nail Technician Majors	5
CHSN 1456	Salon Operations 6 for Cosmetology/Nail Technician Majors	6
<b>General Education Requirements</b>		<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>72</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and one of the following Speech courses from Goal 1 . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH 1720 Interpersonal Communications – 3 cr **OR**
- SPCH 1782 Organizational Communication – 3 cr - recommended

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

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

## Cosmetology Diploma

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems and Diseases	4
CHSN 1405	Preclinic Hair Care 1	3
CHSN 1406	Preclinic Hair Care 2	3
CHSN 1407	Preclinic Nail Care	3
CHSN 1409	Preclinic Chemical Control	3
CHSN 1413	Preclinic Hair Color	3
CHSN 1418	Advanced Hair Care	4
CHSN 1445	Cosmetic Chemistry & Makeup Application	4
CHSN 1450	Skin Analysis & Massage	4
CHSN 1431	Clinic 1 for Cosmetology Majors	3
CHSN 1432	Clinic 2 for Cosmetology Majors	3
CHSN 1433	Clinic 3 for Cosmetology Majors	3
CHSN 1434	Clinic 4 for Cosmetology Majors	3
CHSN 1435	Clinic 5 for Cosmetology Majors	3
CHSN 1436	Clinic 6 for Cosmetology Majors	3
<b>Subtotal</b>		<b>53</b>
<b>Required Technical Electives</b>		<b>3</b>
Must select at least 3 credits from the following technical electives to complete the required 1550 hours needed for licensure:		
CHSN 1451	Salon Operations 1 for Cosmetology/Nail Technician Majors	1
CHSN 1452	Salon Operations 2 for Cosmetology/Nail Technician Majors	2
CHSN 1453	Salon Operations 3 for Cosmetology/Nail Technician Majors	3
CHSN 1454	Salon Operations 4 for Cosmetology/Nail Technician Majors	4
CHSN 1455	Salon Operations 5 for Cosmetology/Nail Technician Majors	5
CHSN 1456	Salon Operations 6 for Cosmetology/Nail Technician Majors	6
<b>General Education Requirements</b>		<b>3</b>
(SPCH 1720 Interpersonal Communications <b>OR</b> SPCH 1782 Organizational Communication) recommended		
<b>Total Program Credits</b>		<b>59</b>

## Nail Care Technician Certificate

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1407	Preclinic Nail Care	3
CHSN 1452	Salon Operations 2 for Cosmetology/Nail Technician Majors	2
CHSN 1461	Clinic 1 for Nail Technicians	3
<b>Total Program Credits</b>		<b>16</b>
<b>Select from the following electives as needed:</b>		
CHSN 1451	Salon Operations 1 for Cosmetology/Nail Technician Majors	1
CHSN 1453	Salon Operations 3 for Cosmetology/Nail Technician Majors	3

# Culinary Arts

Culinary Arts AAS Degree . . . . .	68 Credits
Culinary Arts Diploma . . . . .	55 Credits
Baking and Decorating Certificate . . . . .	9 Credits
Restaurant Management Certificate . . . . .	13 Credits
Short Order Cooking Certificate . . . . .	25 Credits
Wine Professional Certificate . . . . .	9 Credits
Wine and Artisan Foods Certificate . . . . .	17 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 service industry currently employs 9,631,900 individuals and is projected to swell by 7.7% by 2018.

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.

These programs are accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEF).



## 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 as a "Certified Culinarian."

## Culinary Arts AAS Degree

### Program Requirements

Course	Cr
CULA 1400 Culinary Basics 1	3
CULA 1420 Culinary Basics 2	4
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
<b>Subtotal</b>	<b>52</b>
<b>General Education Requirements</b>	<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>68</b>

**AAS Degree General Education Requirements\*** **16 Credits**

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

**Goal 1: Communication**

ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX – 3 cr (SPCH 1720 **OR** SPCH 1782 recommended) Must be completed prior to starting 3rd Semester.

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**

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

## Culinary Arts Diploma

### Program Requirements

Course		Cr
CULA 1400	Culinary Basics 1	3
CULA 1420	Culinary Basics 2	4
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
	<b>Subtotal</b>	<b>52</b>
	<b>General Education Requirement</b>	<b>3</b>
	SPCH 1720 Interpersonal Communication <b>OR</b> SPCH 1782 Organizational Communication (recommended) <b>OR</b> COMM 1510 Customer and Occupational Relations (Does not meet MnTC) Must be completed prior to starting third semester.	
	<b>Total Program Credits</b>	<b>55</b>

## Baking and Decorating Certificate

### Program Requirements

Course		Cr
CULA 1400	Culinary Basics 1	3
CULA 1470	Food Service Sanitation	2
CULA 1490	Food Service Math	2
CULA 1570	Basic Cake Decorating	2
	<b>Total Program Credits</b>	<b>9</b>

## Restaurant 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
	<b>Total Program Credits</b>	<b>13</b>

\* Also see Hospitality Management under Business Programs.

## Short Order Cooking Certificate

### Program Requirements

Course		Cr
CULA 1400	Culinary Basics 1	3
CULA 1420	Culinary Basics 2	4
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 Cooking	2
	<b>Subtotal</b>	<b>22</b>
	<b>General Education Requirement</b>	<b>3</b>
	SPCH 1720 Interpersonal Communication <b>OR</b> SPCH 1782 Organizational Communication (recommended) <b>OR</b> COMM 1510 Customer and Occupational Relations (Does not meet MnTC)	
	<b>Total Program Credits</b>	<b>25</b>

## Wine Professional Certificate

Must be 21 years of age. All credits must be completed in one semester.

### Program Overview

The Wine Professional certificate provides the graduate with a strong knowledge of wine, wine service skills and wine marketing strategies.

### Career Opportunities

The wine industry is rapidly expanding within the United States, with wine sales almost tripling from \$10.9 billion in 1991 to \$30 billion in 2007, representing 314 million cases. Wine sales have now surpassed beer sales with millennial rapidly adapting to wine over beer. Wine sales are an important profit center for the restaurant/hospitality industry and thus a comprehensive knowledge of wine is critical for maximizing outcomes.

Opportunities are available in hotels, restaurants, resorts, clubs, catering and corporate dining. Graduates of the Wine Professional Certificate will be prepared for careers in the restaurant/hospitality industry, wine distribution and wholesale/retail wine trade.

### Program Outcomes (Wine Professional)

1. Graduates will have knowledge and 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 and public relations.

### Program Outcomes (Wine and Artisan Foods)

(in addition to certificate outcomes above)

1. Graduates will have the knowledge and skills of artisan foods preparation and pairing with wines.

## Wine Professional Certificate

### Program Requirements

Course		Cr
CULA 1600	Professional 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
<b>Total Program Credits</b>		<b>9</b>

## Wine and Artisan Foods Certificate\*\*

### Program Overview

The Wine and Artisan Foods certificate provides the graduate with a strong knowledge of wine, wine service skills and wine marketing strategies in addition to current trends in food and wine pairing and preparing Artisan Foods.

### Program Requirements

Course		Cr
CULA 1600	Professional 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
CULA 3630	Artisan Baking	3
CULA 3635	Artisan Cheese	3
CULA 3641	Charcuterie	2
<b>Total Program Credits</b>		<b>17</b>

\*\*pending approval

## Esthetics

Esthetician Certificate . . . . .	27 Credits
Esthetician AAS Degree. . . . .	71 Credits
Esthetician Diploma . . . . .	60 Credits

### Program Overview

Esthetician services include specialized work with skin care products, analysis of skin, skin exfoliation, massage techniques and facials. Students learn to apply makeup, provide temporary hair removal, and use machines designed to administer skin treatments.

Esthetician AAS Spa Technician Emphasis or Esthetician Diploma graduates will meet the criteria for the CIDESCO exam requirement of 1200 hours of training in skin, massage and nail services. Therefore, graduates of these 2 program options are trained in therapeutic skin and body services.

### Career Opportunities

After esthetician students complete 600 hours of skills and theory training and pass the written exam through the State designated testing service and skills certification, they are eligible for licensure through the Minnesota Board of Cosmetologist Examiners. Estheticians work in a variety of settings including salons, spas, fitness centers, as well as dermatologic and plastic surgeon's offices and hospitals. CIDESCO Diploma holders are able to license as an esthetician technician, certify as a massage therapist and license as a nail technician upon completion of clinic nail hours. Cross trained therapists are able to work in Spas, Medical Offices, Cruise Ships and 5 Star Resorts.

### Program Outcomes (Esthetician)

1. Graduates will be prepared to take the esthetician skills certification.
2. Graduates will be prepared to take the Minnesota State Esthetician written exam and state law test administered through the state designated testing service (access through [www.bceboard.state.mn.us](http://www.bceboard.state.mn.us)).
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 employment as an esthetician.
7. Graduates will have the knowledge and skills for work and life roles.
8. Graduates will have knowledge in cosmetic care product ingredients.

### Program Outcomes (Esthetician AAS – Spa Technician emphasis and Esthetician Diploma) (in addition to certificate outcomes above)

1. Graduates will be prepared to take the CIDESCO exam.
2. Graduates will have knowledge and skills in spa operations focusing on therapeutic skin and body services.
3. Graduates will be prepared for employment as a CIDESCO diploma holder.

## Esthetician Certificate

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1442	Clinic 1 for Estheticians	4
CHSN 1443	Clinic 2 for Estheticians	4
CHSN 1445	Cosmetic Chemistry & Makeup Applications	4
CHSN 1450	Skin Analysis & Massage	4
<b>Subtotal</b>		<b>24</b>
<b>General Education Requirements</b>		<b>3</b>
SPCH 1720 Interpersonal Communication		
<b>OR</b> SPCH 1782 Organizational Communication (recommended)		
<b>Total Program Credits</b>		<b>27</b>

### Select from the following electives as needed:

CHSN 1551	Salon Operations 1 for Estheticians	1
CHSN 1552	Salon Operations 2 for Estheticians	2
CHSN 1553	Salon Operations 3 for Estheticians	3
CHSN 1554	Salon Operations 4 for Estheticians	4
CHSN 1555	Salon Operations 5 for Estheticians	5
CHSN 1556	Salon Operations 6 for Estheticians	6

## Esthetician AAS Degree

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1442	Clinic 1 for Estheticians	4
CHSN 1443	Clinic 2 for Estheticians	4
CHSN 1407	Preclinic Nail Care	3
CHSN 1445	Cosmetic Chemistry & Makeup Applications	4
CHSN 1450	Skin Analysis and Massage	4
CHSN 2411	CIDESCO Exam Student Preparation	3
HLTH 1410	Medical Terminology	1
HLTH 1418	Somatic Practitioner: Business and Ethics	2
HLTH 1420	Anatomy & Physiology	4
HLTH 1425	Clinical Applications in Kinesiology	3
<b>Subtotal</b>		<b>40</b>

### Select one emphasis: Medical Esthetician OR

<b>Spa Technician Emphasis</b>		<b>14</b>
<b>General Education Requirements</b>		<b>17</b>
(Select at least 17 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>71</b>

### Medical Esthetician Emphasis

Course		Cr
BIOL 1760	Nutrition	3
HLTH 1900	Pathology for the Somatic Practitioner	4
PSYC 1720	Psychology throughout the Lifespan (meets goal 5 of Gen. Ed Requirements)	3
HLTH 1455	Yoga Postures/Asanas	2
HLTH 1456	Yoga Relaxation Techniques	2
<b>Total Emphasis Credits</b>		<b>14</b>

**The following General Education courses are required for the Medical Esthetician Emphasis:**

CHEM 1711	Principles of Chemistry 1	4
SPCH 1720	Interpersonal Communication	3
	General education elective (From Goals 1-10)	3

### Spa Technician Emphasis

Course		Cr
MASS 1400	Intro to Therapeutic Massage	4
MASS 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1480	Massage Therapy Practicum	4
<b>Total Emphasis Credits</b>		<b>14</b>

**The following General Education course is required for the Spa Technician Emphasis:**

BIOL 1760	Nutrition	3
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**Select from the following electives as needed:**

CHSN 1551	Salon Operations 1 for Estheticians	1
CHSN 1552	Salon Operations 2 for Estheticians	2
CHSN 1553	Salon Operations 3 for Estheticians	3
CHSN 1554	Salon Operations 4 for Estheticians	4
CHSN 1555	Salon Operations 5 for Estheticians	5
CHSN 1556	Salon Operations 6 for Estheticians	6

### AAS Degree General Education Requirements\*

**17 Credits**

Students are required to complete ENGL 1711 and a speech course from Goal 1 . . . . . 7

**Goal 1: Communication**

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

**Goal 3: Natural Sciences**

**Goal 4: Mathematical/Logical Reasoning**

Select a minimum of 3-4 credits from Goal 5 . . . . . 3-4

**Goal 5: History, Social Science and Behavioral Sciences**

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

**Goal 6: Humanities and Fine Arts**

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

## Esthetician Diploma

### Program Requirements

Course		Cr
CHSN 1410	Preclinic Introduction	4
CHSN 1420	Body Systems & Diseases	4
CHSN 1461	Clinic 1 for Nail Technicians	3
CHSN 1442	Clinic 1 for Estheticians	4
CHSN 1443	Clinic 2 for Estheticians	4
CHSN 1407	Preclinic Nail Care	3
CHSN 1445	Cosmetic Chemistry & Makeup Applications	4
CHSN 1450	Skin Analysis and Massage	4
CHSN 2411	CIDESCO Exam Student Preparation	3
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 1421	Massage Spa Techniques	2
MASS 1422	Massage Clinical Techniques	4
MASS 1480	Massage Therapy Practicum	4
<b>Subtotal</b>		<b>57</b>
<b>General Education Requirements</b>		<b>3</b>
Recommended: SPCH 1720		
Interpersonal Communications		
<b>OR</b> SPCH 1782 Organizational Communications		
<b>Total Program Credits</b>		<b>60</b>

**Select from the following electives as needed:**

CHSN 1551	Salon Operations 1 for Estheticians	1
CHSN 1552	Salon Operations 2 for Estheticians	2
CHSN 1553	Salon Operations 3 for Estheticians	3
CHSN 1554	Salon Operations 4 for Estheticians	4
CHSN 1555	Salon Operations 5 for Estheticians	5
CHSN 1556	Salon Operations 6 for Estheticians	6

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: [info@CIDESCO.com](mailto:info@CIDESCO.com)  
Web site: [www.cidESCO.com](http://www.cidESCO.com)



# Health Unit Coordinator

Health Unit Coordinator Certificate . . . . . 17 Credits  
 Nursing Station Technician Certificate . . . . . 25 Credits

## Program Overview

Health Unit Coordinators work at the nursing station in health care facilities. As the center of communications on the nursing unit, Health Unit Coordinators 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 with emphasis on customer service on the nursing unit including answering the telephone, operating the computer, assisting visitors, filing, and maintaining patient records. Recent changes in healthcare with electronic medical records and computerized physician order entry will be introduced.

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, as well as be proficient in the English language.

## Career Opportunities

Health Unit Coordinators are employed in front desk positions at various metropolitan hospitals, healthcare centers, and clinics.

The National Association of Health Unit Coordinators conducts an optional certification exam 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.
6. Graduates will be prepared for the National HUC certification exam.

# 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
<b>Total Program Credits</b>		<b>17</b>

This program meets National Association of HUC Standards and prepares students for the National HUC certification exam.  
 NAHUC Web site: [www.NAHUC.org](http://www.NAHUC.org)

# Nursing Station Technician

## Program Overview

The Nursing Station Technician program is designed for Health Unit Coordinators who wish to acquire the necessary skills to assist nurses with hands-on patient care. This program will provide training in the basic nursing assistant skills in the laboratory setting and a clinical experience in a long term care facility. Graduates of this program are eligible to take the Nursing Assistant/Home Health Aide test to be placed on the Minnesota State Nursing Assistant Registry.

# Nursing Station Technician 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
NAST 1111	Nursing Assistant & Home Health Aide	4
NAST 1112	Nursing Assistant – Clinical	1
<b>Subtotal</b>		<b>22</b>
<b>General Education Requirements</b>		<b>3</b>
(SPCH 1720 Interpersonal Communication OR SPCH 1730 Intercultural Communication is recommended)		
<b>Total Program Credits</b>		<b>25</b>

\*\*pending approval



# Massage Therapy Careers

Clinical Sports Massage AAS Degree . . . . .	66 Credits
Massage Therapy Certificate . . . . .	30 Credits
Clinical Sports Massage Advanced Certificate .	26 Credits
Reflexology Certificate . . . . .	23 Credits
Yoga Instructor Training Certificate . . . . .	16 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 Sports Massage Therapy Program perform all of the skills in the certificate program and learn to perform thorough patient assessments and develop care plans based on assessments. Students implement care plans 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 HMOs 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 may be self-employed.

The Massage Therapy Certificate program exceeds 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 Sports Massage builds upon the existing certificate program. Students are trained in specific Clinical Sports Massage techniques and pathologies. Upon completion of the 1500 hour program, students will be eligible to apply for National Certification for Advanced Practice (NCAP). Licensing or certification exams are independent of graduation requirements.

### Program Outcomes (Massage Therapy Certificate)

1. Graduates will provide application of manual techniques to positively contribute to the wellbeing 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 (Clinical Sports Massage AAS) (in addition to certificate outcomes above)

1. Graduates will be prepared to take the National Certification for Advanced Practice NCAP exam.
2. Graduates will be prepared for employment in a sports and rehabilitation environment.

## Clinical Sports Massage AAS Degree

### Program Requirements

Course	Cr
HLTH 1418 Somatic Practitioner: Business & Ethics	2
HLTH 1421 Anatomy & Physiology for Somatic Practitioners	4
HLTH 1422 Wellness Coaching	4
HLTH 1425 Clinical Applications in Kinesiology	3
HLTH 1465 Functional Holistic Nutrition	4
HLTH 1485 Therapeutic Exercise	5
HLTH 1900 Pathology for the Somatic Practitioner	4
MASS 1400 Introduction to Therapeutic Massage	4
MASS 1421 Massage Spa Techniques	2
MASS 1422 Massage Clinical Techniques	4
<b>A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum</b>	
MASS 1423 Advanced Clinical Sports Massage Techniques	5
MASS 1480 Massage Therapy Practicum	4
MASS 1490 Clinical Massage Internship	5
<b>Subtotal</b>	<b>50</b>
<b>General Education Requirements</b> (See below for specific General Education requirements for this program)	<b>16</b>
<b>Total Program Credits</b>	<b>66</b>

**AAS Degree General Education Requirements\*** **16 Credits**

Students are required to complete ENGL 1711 and a Speech course. . . . . 7

**Goal 1: Communication**

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

Students are required to take the following from Goal 3 . . . 3

**Goal 3: Natural Sciences**

- BIOL 1760 Nutrition – 3 cr (recommended)

Select a minimum of 3 credits from Goal 5 . . . . . 3

**Goal 5: History, Social Science and Behavioral Sciences**

- PSYC 1750 Intro to Health Psychology (recommended) – 3 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 for specific course options.

## Massage Therapy Certificate

### Program Requirements

Course	Cr
HLTH 1418 Somatic Practitioner: Business & Ethics	2
HLTH 1421 Anatomy and Physiology for Somatic Practitioners	4
HLTH 1425 Clinical Applications in Kinesiology	3
HLTH 1465 Functional Holistic Nutrition	4
MASS 1400 Introduction to Therapeutic Massage	4
MASS 1421 Massage Spa Techniques	2
MASS 1422 Massage Clinical Techniques	4
<b>A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum</b>	
MASS 1480 Massage Therapy Practicum	4
<b>Subtotal</b>	<b>27</b>
<b>General Education Requirements</b>	
PSYC 1750 Introduction Health Psychology (recommended)	3
<b>Total Program Credits</b>	<b>30</b>

## Clinical Sports Massage Advanced Certificate\*\*

### Program Requirements

Course	Cr
HLTH 1422 Wellness Coaching	4
HLTH 1485 Therapeutic Exercise	5
HLTH 1900 Pathology for the Somatic Practitioner	4
MASS 1423 Advanced Clinical Sports Massage Techniques	5
MASS 1490 Internship	5
<b>Subtotal</b>	<b>23</b>
<b>General Education Requirements</b>	
PSYC 1750 Intro Health Psychology (recommended)	3
<b>Total Program Credits</b>	<b>26</b>

\*\*pending approval

## Reflexology

### Program Overview

Reflexology is a complementary therapy that works on the feet or hands enabling the body to heal itself. Reflexology can be used to restore and maintain the body's natural equilibrium and encourage healing by causing a relaxation response in the corresponding body part.

A Reflexologist uses hands only to apply pressure to the feet and/or hands. For each person the application and the effect of the therapy is unique. Reflexology is suitable for acute and chronic conditions, stress related conditions and as preventative therapy.

Graduates will perform skills in reflexology and clearly understand the difference between consultative and prescriptive healing practices.

### Career Opportunities

Reflexology can be a stand alone modality or easily incorporated into a massage, esthetics and/or nail service.

Legal requirements for reflexologists vary from state to state. The American Reflexology Certification Board was established in 1991 and administered the first exam in 1992. The current version of the exam has been in use since 1998 and requires a minimum of 110 hours of training and 90 post graduate sessions. The College's Reflexology Certificate provides over 300 hours of training in the required content areas of the exam. Currently, Minnesota has a full and fair disclosure requirement. There are municipality by municipality regulations. A majority of reflexologists are self employed. With increased interest in complementary and alternative therapy and more demand for personal investment services, opportunities will be available to those skilled in various modalities such as reflexology.

### Program Outcomes

1. Graduates will provide application of reflexology techniques to contribute to restoring balance in the body.
2. Graduates will recognize indications and contraindications to reflexology services.
3. Graduates will be prepared to deliver reflexology services in the employment setting.

## Reflexology Certificate

### Program Requirements

Course		Cr
HLTH 1410	Medical Terminology	1
HLTH 1418	Somatic Practitioner: Business and Ethics	2
HLTH 1420	Anatomy & Physiology	4
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1900	Pathology for the Somatic Practitioner	4
MASS 1471	Reflexology 1	3
MASS 1472	Reflexology 2	3
	<b>Subtotal</b>	<b>20</b>
	<b>General Education Requirements</b>	<b>3</b>
PSYC 1720	Psychology throughout the Lifespan (recommended)	
	<b>Total Program Credits</b>	<b>23</b>

## Yoga Instructor Training

### Program Overview

Yoga instructors teach the principles of yoga, including how it strengthens and tones the body as well as calms the mind and spirit. Yoga instructors teach students in specific methods of yoga.

The 200 hour yoga teacher training required for certification includes information about possible health benefits from yoga practice such as building one's core strength, improving overall flexibility and developing overall muscle tone. This program also provides training in identifying potential contraindications to yoga for individuals with certain health conditions.

### Career Opportunities

Yoga instructors are listed under the main category of fitness workers with Department of Labor. Training for yoga instructors is ever changing. According to the US Department of Labor Statistics, demand for teachers of yoga has grown faster than the ability to train them properly, as the interest in yoga exercise has exploded in recent years. Saint Paul College's program is designed to meet Yoga Alliance 200 hour standards.

As health clubs strive to provide more personalized service to keep their members motivated, they continue to offer a wide variety of group exercise classes. The aging population, in particular, demand low-impact forms of exercise which yoga provides. Yoga instructors work in: HMOs in the areas of heart health and pregnancy, wellness centers, studios with massage therapists, fitness centers, educational institutions, conference centers, chiropractic offices, spas, community education, yoga studios and cruise ships.

### Program Outcomes

1. Graduates will be prepared to instruct students in the principles of yoga.
2. Graduates will recognize indications and contraindications to yoga practice.
3. Graduates will meet the Yoga Alliance Standards of Yoga Teacher Training.



## Yoga Instructor Training (Level 1) Certificate (200 hour)

### Program Requirements

Course		Cr
HLTH 1420	Anatomy and Physiology	4
HLTH 1455	Yoga Postures/Asanas	2
HLTH 1456	Yoga Relaxation Techniques	2
HLTH 1457	Yoga Postures 2	2
HLTH 1540	Intro to Techniques for the Yoga Instructor	3
	<b>Subtotal</b>	<b>13</b>
	<b>General Education Course of Choice</b>	<b>3</b>
	<b>Total Program Credits</b>	<b>16</b>

# Medical Laboratory Technician

Medical Laboratory Technician AAS Degree . . . 72 Credits

## Program Overview

Medical 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 demonstrate 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 and master a variety of tasks.

Upon completion of the program, the student is eligible to take an examination administered by the Board of Certification under the direction of ASCP. Licensing or certification are independent of graduation requirements.

## 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 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 be prepared to take the examination administered by the Board of Certification under the direction of ASCP.
7. The graduate will demonstrate preparedness for entry level employment as a Medical Laboratory Technician, including both technical expertise and professionalism.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

NAACLS  
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Rosemount, IL 60018-5119  
Phone: 773.714.8880  
Fax: 773.714.8886  
E-mail: [info@naacils.org](mailto:info@naacils.org)  
URL: [www.naacils.org](http://www.naacils.org)

## Application to the Program/Minimum Requirements:

To apply to become a Medical Laboratory Technician 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.

## 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 1510	Immunology	2
MDLT 2400	Mycology/Parasitology	2
MDLT 2410	Immunoematology	3
MDLT 2420	Clinical Microbiology	4
MDLT 2430	Clinical Practice Orientation	1
MDLT 2591	Clinical Practice	9
MDLT 2593	Comprehensive Examinations	1
<b>Subtotal</b>		<b>43</b>
<b>General Education Requirements</b>		<b>29</b>
(Select 29 credits of General Education according to the distribution listed below)		
<b>Total Program Credits</b>		<b>72</b>

#### Select from the following electives as needed:

MDLT 1451	Learning Lab 1—Introductory Skills	1
MDLT 1452	Learning Lab 2—Introductory Skills	1
MDLT 1453	Learning Lab 3—Intermediate Skills	1
MDLT 1454	Learning Lab 4—Intermediate Skills	1
MDLT 2455	Learning Lab 5—Advanced Skills	1
MDLT 2456	Learning Lab 6—Advanced Skills	1

### AAS Degree General Education Requirements\* 29 Credits

Students are required to complete ENGL 1711 and SPCH 1710 from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH 1710 Fundamentals of Public Speaking – 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 Principles of Chemistry 1 – 4 cr  
CHEM 1712 Principles of 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 Problems - recommended

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

#### Goal 6: Humanities and Fine Arts

PHIL 1722 Health Care Ethics (recommended)

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

## Nursing Assistant/Home Health Aide

Nursing Assistant/Home Health Aide Certificate . . . . .	5 Credits
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### Program Overview

Nursing assistants and Home Health Aides provide direct client care under the direction of a nurse or doctor in a variety of health care settings. Using technical skills learned in both the classroom and clinical setting, nursing assistants and home health aides perform such tasks as feeding, bathing, positioning, ambulating and comfort measures for the client. Students explore and discuss legal, ethical and safety issues in client care. Students are prepared to take the National Nurse Aide Assessment Program (NNAAP) to be placed on the Minnesota State Nursing Assistant Registry. Qualifications include achieving appropriate assessment scores. Licensing certification or registry status are independent of graduation requirements.

### Career Opportunities

Nursing assistants must be on the Minnesota State Nursing Assistant Registry to be employed in the long term care setting. In Minnesota, employment for nursing assistants is expected to grow about as fast as average through 2012. Nationally the number of jobs is expected to grow faster than average. Nursing Assistant/Home Health

### Aide Program Outcomes

1. Graduates will be prepared to provide direct client care in a long term care facility or home health care setting.
2. Graduates will be prepared to meet the requirements to be placed on the Minnesota State Nursing Assistant Registry.

### Program Requirements

Course		Cr
NAST 1111	Nursing Assistant & Home Health Aide	4
NAST 1112	Nursing Assistant – Clinical	1
<b>Total Program Credits</b>		<b>5</b>

# Personal Trainer

Personal Trainer AAS Degree . . . . .	60 Credits
Personal Trainer Diploma . . . . .	47 Credits

## Program Overview

Personal Trainers instruct clientele in the betterment of their health through an integrated approach using sound knowledge of appropriate exercises. Functional training techniques, aerobic exercises and advanced stretching modalities (such as PNF and AIS) are implemented appropriately based on initial fitness testing. Graduates from the program perform patient assessments and build customized fitness plans for individuals including clients with special needs. Methods of teaching various group fitness classes and nutritional consulting are also utilized.

## Career Opportunities

According to IHRSA research, "the US Health Club Industry provides services to over 36.3 million health club members and employed 205,000 full-time employees in 2004. Fifty percent of these Clubs identified Personal Training as their number one most profitable service." The US Bureau of Labor and Statistics listed the Personal Fitness Trainer as one of the top overall job openings. They also cited it as the "third fastest growing occupation requiring Post Secondary Vocational School training and is expecting 44% growth by year 2012." Graduates perform personal training duties at fitness centers, health clubs, private clubs, sports rehabilitation facilities, or may work in a private practice.

## Program Outcomes

1. Graduates will provide application of personal training 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 Academy of Sports Medicine (NASM) exam for Personal Training Certification.
3. Graduates will be prepared for employment as a Personal Trainer.

# Personal Trainer AAS Degree

## Program Requirements

Course		Cr
HLTH 1418	Somatic Practitioner: Business & Ethics	2
HLTH 1421	Anatomy & Physiology for the Somatic Practitioner	4
HLTH 1422	Wellness Coaching	4
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1900	Pathology for the Somatic Practitioner	4
HLTH 1465	Functional Holistic Nutrition	4
HLTH 1485	Therapeutic Exercise	5
PTRN 1410	Personal Training 1	5
PTRN 1420	Personal Training 2	5
PTRN 1430	Functional Exercise Physiology	3
PTRN 1490	Personal Training Internship	5
<b>Subtotal</b>		<b>44</b>
<b>General Education Requirements</b>		<b>16</b>
<b>Total Program Credits</b>		<b>60</b>

## AAS Degree General Education Requirements\*

16 Credits

Students are required to complete ENGL 1711 and a Speech Course from Goal 1 . . . . . 7

### Goal 1: Communication

- ENGL 1711 Composition 1 - 4 cr.
- SPCH XXXX – 3 cr (Goal 1 only)

Students are required to take a 3 credit course from Goal 3 . . . . . 3

### Goal 3: Natural Sciences

- BIOL 1760 Nutrition - 3 cr (recommended)

Students are required to select a minimum of 3 credits from Goal 5 . . . . . 3

### Goal 5: History, Social Science and Behavioral Sciences

- PSYC 1750 Introduction to Health Psychology – 3 cr (recommended)

Students are required to 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.

# Personal Trainer Diploma

## Program Requirements

Course		Cr
HLTH 1418	Somatic Practitioner: Business & Ethics	2
HLTH 1421	Anatomy & Physiology for the Somatic Practitioner	4
HLTH 1422	Wellness Coaching	4
HLTH 1425	Clinical Applications in Kinesiology	3
HLTH 1465	Functional Holistic Nutrition	4
HLTH 1485	Therapeutic Exercise	5
HLTH 1900	Pathology for the Somatic Practitioner	4
PTRN 1410	Personal Training 1	5
PTRN 1420	Personal Training 2	5
PTRN 1430	Functional Exercise Physiology	3
PTRN 1490	Personal Training Internship	5
<b>Subtotal</b>		<b>44</b>
<b>General Education Requirements</b>		<b>3</b>
PSYC 1750 Introduction to Health Psychology (recommended)		
<b>Total Program Credits</b>		<b>47</b>

# Practical Nursing

Practical Nursing AAS Degree. . . . .	63 Credits
Practical Nursing Diploma . . . . .	55 Credits

## Program Overview

Under the supervision of registered nurses and physicians, licensed practical nurses provide bedside care, monitor clients, gather information, evaluate client needs and contribute to the client's care. Licensed practical nurses administer medications and perform treatments. Licensed practical nurses use observation, good decision-making and communication skills in caring for clients.

The Practical Nursing AAS degree includes many of the general education courses required to enter a nursing mobility program at campuses throughout the Metro area.

## Career Opportunities

Employment of LPN's is expected to increase faster than the average for all occupations. Employment of LPN's is expected to grow by 21% between 2008 and 2018. The best opportunities will occur in nursing care facilities and home health care services. This is in response to the long-term care needs of an increasing elderly population.

Graduates may be employed in long-term care centers, clinics, home care agencies and other ambulatory care settings. Upon completion of the program, the graduate will be prepared to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN). Licensing is independent of graduation requirements.

## 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 be prepared to take the NCLEX-PN licensure exam.
5. The graduate will be prepared for job placement in nursing care.

# Practical Nursing AAS Degree

## Program Requirements

Course	Cr
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Preliminary courses and requirements:

*The following four (4) courses, required Practical Nursing Seminar and TEAS Test, must be completed prior to submitting your Application to Practical Nursing Major form.*

HLTH 1410	Medical Terminology	1
HLTH 1460	Nutrition for the Health Professions	2
<b>Health Core Credits</b>		<b>3</b>
BIOL 2721	Human Anatomy & Physiology 1 (Fulfills Gen. Ed. Requirement – Goal 3)	4
ENGL 1711	Composition 1 (Fulfills Gen. Ed. Requirement – Goal 1)	4
<b>Subtotal General Education Requirements</b>		<b>8</b>
SEMINAR	Attend required Practical Nursing Seminar to receive ticket to take Test of Essential Academic Skills (TEAS)	
TEAS Test	Complete Test of Essential Academic Skills	

Course	Cr
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**These General Education Courses must be completed before you will be allowed to register for the Core PRNS courses.**

BIOL 2722	Human Anatomy & Physiology 2 (Fulfills Gen. Ed. Elective)	4
PSYC 1720	Psychology throughout the Lifespan (Fulfills Gen. Ed. Requirement – Goal 5)	3
SPCH 1720	Interpersonal Communication <b>OR</b>	3
SPCH 1730	Intercultural Communication <b>OR</b>	
SPCH 1750	Small Group Communications (Fulfills Gen. Ed. Requirement – Goal 1)	
PHIL 1722	Health Care Ethics (Fulfills Gen. Ed. Requirement – Goal 6)	3
BIOL 2750	General Microbiology <b>OR</b>	4
CHEM 1711	Principles of Chemistry 1	
<b>Subtotal General Education Requirements</b>		<b>17</b>

PRNS Core Course		Cr
PRNS 1420	Essentials of Clinical Pharmacology	3
PRNS 2410	Psycho/Social Nursing	2
PRNS 1430	Fundamentals of Nursing	5
PRNS 1491	Clinical 1	4
<b>A CPR course/certificate must be completed prior to taking PRNS 1492 Clinical 2</b>		
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
<b>PRNS Core Credits</b>		<b>35</b>
<b>Health Core Credits</b>		<b>3</b>
<b>General Education Credits</b>		<b>25</b>
<b>Total Program Credits</b>		<b>63</b>

**AAS Degree General Education Requirements\* 25 Credits**

Students are required to complete ENGL 1711 and one of the following Speech courses from Goal 1 . . . . 7

**Goal 1: Communication**

- ENGL 1711 Composition 1 – 4 cr
- SPCH 1720 Interpersonal Communication – 3 cr **OR**
- SPCH 1730 Intercultural Communication – 3 cr **OR**
- SPCH 1750 Small Group Communications

Students are required to complete the following courses from Goal 3 . . . . . 12

**Goal 3: Natural Sciences**

- BIOL 2750 General Microbiology **OR**
- CHEM 1711 Principles of Chemistry 1 – 4cr
- BIOL 2721 Anatomy & Physiology 1 – 4cr
- BIOL 2722 Anatomy & Physiology 2 – 4cr

Students are required to complete the following course from Goal 5 . . . . . 3

**Goal 5: History, Social Science and Behavioral Sciences**

- PSYC 1720 Psych throughout Lifespan – 3cr

Students are required to complete the following course from Goal 6 . . . . . 3

**Goal 6: Humanities and Fine Arts**

- PHIL 1722 Health Care Ethics – 3cr

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

This program is accredited by the National League for Nursing Accrediting Commission

3343 Peachtree Road, NE  
Suite 850  
Atlanta, Georgia 30326  
Phone: 404.975.5000  
Fax: 404.975.5020  
URL: www.nlnac.org

# Practical Nursing Diploma

## Program Requirements

Course	Cr
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Preliminary courses and requirements:

*The following four (4) courses, required Practical Nursing Seminar and TEAS Test must be completed prior to submitting your Application to Practical Nursing Major form.*

HLTH 1410	Medical Terminology	1
HLTH 1420	Anatomy & Physiology	4
HLTH 1460	Nutrition for the Health Professions	2
<b>Health Core Credits</b>		<b>7</b>
ENGL 1711	Composition 1 (Fulfills Gen. Ed. Requirement – Goal 1)	4
<b>Subtotal General Education Requirements</b>		<b>4</b>
SEMINAR	Attend required Practical Nursing Seminar to receive ticket to take Test of Essential Academic Skills (TEAS)	
TEAS Test	Complete Test of Essential Academic Skills	

Course	Cr
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**These General Education Courses must be completed before you will be allowed to register for the Core PRNS courses.**

PHIL 1722	Health Care Ethics (Fulfills Gen. Ed. Requirement – Goal 6)	3
PSYC 1720	Psychology throughout the Lifespan (Fulfills Gen. Ed. Requirement – Goal 5)	3
SPCH 1720	Interpersonal Communication <b>OR</b>	3
SPCH 1730	Intercultural Communication <b>OR</b>	
SPCH 1750	Small Group Communications (Fulfills Gen. Ed. Requirement – Goal 1)	
<b>Subtotal General Education Requirements</b>		<b>9</b>

PRNS Core Course	Cr
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PRNS 1420	Essentials of Clinical Pharmacology	3
PRNS 2410	Psycho/Social Nursing	2
PRNS 1430	Fundamentals of Nursing	5
PRNS 1491	Clinical 1	4

**A CPR course/certificate must be completed prior to taking PRNS 1492 Clinical 2**

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

<b>PRNS Core Credits</b>		<b>35</b>
<b>Health Core Credits</b>		<b>7</b>
<b>General Education Credits</b>		<b>13</b>
<b>Total Program Credits</b>		<b>55</b>

For more information about the curriculum, please contact the Dean, Marilyn Krasowski 651.846.1314 or marilyn.krasowski@saintpaul.edu



## Nursing Mobility Program

Saint Paul College recognizes Practical Nursing graduates often continue their studies in a nursing mobility 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 a nursing mobility program. The Practical Nursing AAS requires the student to complete 25 General Education requirements and is designed to provide the student with a significant portion of the Gen Eds required for nursing mobility programs. Nursing mobility programs have specific General Education (chemistry and biology) course requirements. The receiving college determines which courses are accepted in transfer. Please refer questions regarding transferring to a Nursing Mobility Program to the Transfer Specialist at 651.846.1739

## Respiratory Therapist

Respiratory Therapist AAS Degree . . . . . 78 Credits

### Program Overview

Respiratory Therapists 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. Upon completion of the program the student is eligible to take the National Certification exam. Certification is independent of graduation requirements.

### Career Opportunities

Employment of respiratory therapists is expected to increase much faster than the average for all occupations because of substantial growth of the middle-aged and elderly population, a development that will heighten the incidence of cardiopulmonary disease.

Respiratory therapists are employed by hospitals, clinics or laboratories and home care agencies. Graduates may 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 Therapy clinical experiences.
2. Graduates will have demonstrated knowledge and skills in Respiratory Therapy clinical simulations.
3. Graduates will be prepared to take the National Certification Exam.
4. Graduates will be prepared for employment as Respiratory Therapists.
5. Graduates will have successfully mastered the general education program requirements for work and life roles.

Saint Paul College's Respiratory Therapist Program is accredited by the Commission on Accreditation for Respiratory Care ([www.coarc.com](http://www.coarc.com)).

Commission on Accreditation for  
Respiratory Care  
1248 Harwood Road  
Bedford, TX 76021-4244  
Phone: 817.283.2835



## Respiratory Therapist AAS Degree

### Program Requirements

Course Prerequisite		Cr
HLTH 1410	Medical Terminology	1
Course		Cr
HLTH 1420	Anatomy & Physiology	4
RESP 1411	Respiratory Care Essentials	2
RESP 1412	Respiratory Care Essentials Lab	1
<b>Completion of American Heart Association CPR Course "C". Must be completed first fall semester of Respiratory Therapist major. American Red Cross training does not fulfill the requirement.</b>		
RESP 1510	Cardiopulmonary Pathophysiology 1	3
RESP 1521	Respiratory Care Therapeutics	4
RESP 1522	Respiratory Care Therapeutics Lab	1
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 1596	Respiratory Care Clinical 5	5
RESP 2411	Mechanical Ventilation	3
RESP 2412	Mechanical Ventilation Lab	1
RESP 2420	Cardiopulmonary Pathophysiology 2	1
RESP 2430	Neonatal/Pediatric Respiratory Care	2
RESP 2440	Management of the Critically Ill Patient	4
RESP 2450	Cardiopulmonary Diagnostics	1
RESP 2470	Registry Review	3
RESP 2510	Survey of Human Disease	2
RESP 2571	Adv. Clinical Life Support Simulation Training	2
<b>Program Major Credits</b>		<b>56</b>
<b>General Education Requirements</b>		<b>22</b>
(Select at least 22 credits of General Education according to the Requirements below)		
<b>Total Program Credits</b>		<b>78</b>

### AAS Degree General Education Requirements\* 22 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

Students are required to complete the following from Goals 3 & 4 . . . . . 9

#### Goal 3: CHEM 1711 Principles of Chemistry 1 – 4 cr

#### Goal 4: BIOL 1740 General Biology 1 – 5 cr

Select a minimum of 3 credits from Goal 5 . . . . . 3

#### Goal 5: History, Social Science and Behavioral Sciences

Students are required to complete the following from Goal 6 . . . . . 3

#### Goal 6: Humanities and Fine Arts

- PHIL 1722 Health Care Ethics – 3 cr

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

## Watchmaking

Micro Mechanical Technology Diploma. . . . . 72 Credits  
 Watchmaking Certificate . . . . . 30 Credits

### Micro Mechanical Technology

The Micro Mechanical Technology Diploma 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 one 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 demand. Companies that seek employees with the skills and knowledge taught in this program include Honeywell and Medtronic.

This program is also the prerequisite for the Watchmaking Certificate Program. Students who pass all of the intermediate assessments, 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 the 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
WMCM1200	Micro Mechanics - Filing 1	5
WMCM1201	Micro Mechanics - Filing 2	5
WMCM1202	Micro Mechanics - Turning 1	5
WMCM1203	Micro Mechanics - Turning 2	5
WMCM1204	Micro Mechanics - Tool Making 1	5
WMCM1205	Micro Mechanics - Tool Making 2	5
WMCM1206	Micro Mechanics – Mainsprings	5
WMCM1207	Micro Mechanics - Gear Train	5
WMCM1208	Micro Mechanics – Escapement	5
WMCM1209	Micro Mechanics - Balance Wheel	5
WMCM1210	Micro Mechanics - Hairspring 1	5
WMCM1211	Micro Mechanics - Hairspring 2	5
WMCM1212	Micro Mechanics – Timing	5
WMCM1213	Micro Mechanics - External Parts & Capstone	4
	<b>Subtotal</b>	<b>69</b>
	<b>General Education Requirements</b>	<b>3</b>
	<b>Total Program Credits</b>	<b>72</b>

### Optional Electives:

WMCM1480	Horological Lab 1	3
WMCM1580	Horological Lab 2	3
WMCM2480	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 in great demand to repair the complex, high-end watches that are being sold today. 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 the 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.

### 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
WMCM2300	Watchmaking – Calendar	5
WMCM2301	Watchmaking – Automatic	5
WMCM2302	Watchmaking – Quartz	5
WMCM2303	Watchmaking – Precision Timing	5
WMCM2304	Watchmaking – Chronograph	5
WMCM2305	Watchmaking – Capstone/Career Prep	5
	<b>Total Program Credits</b>	<b>30</b>

### Optional Electives:

WMCM1480	Horological Lab 1	3
WMCM1580	Horological Lab 2	3
WMCM2480	Horological Lab 3	3

# Language Programs

**American Sign Language Studies** **107**

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American Sign Language Studies Certificate

**Sign Language Interpreter/Transliterater** **108**

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Sign Language Interpreter/Transliterater AAS Degree

**English for Speakers of Other Languages** **110**

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English for Speakers of Other Languages Courses

# American Sign Language Studies

American Sign Language Studies Certificate . . 30 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/Transliterators 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 the 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/Transliterators Program
- Enhances American Sign Language fluency for potential or current teachers of Deaf and Hard-of-Hearing students
- Meets general education requirements at some state colleges and universities

## Program Outcomes

1. Graduates will be prepared to meet the ASL prerequisites for the Sign Language Interpreter/Transliterators 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 1443 ASL Fingerspelling and Numbers	3
<b>Subtotal</b>	<b>28</b>
<b>Select 2 credits from following Technical Electives</b>	<b>2</b>
ASLS 1415 American Sign Language 5	3
ASLS 1446 ASL Non-Manual Markers	2
ASLS 1448 American Sign Language Semantics	2
ASLS 1497 Special Topics: ASL	1-5
<b>Total Program Credits</b>	<b>30</b>
<b>Optional Courses:</b>	
*ASLS 1455 Contrastive Text Analysis	2
*ASLS 1469 Deaf Heritage of Minnesota	2
*ASLS 1470 ASL Discourse	2

\* These ASLS courses are not offered annually.

If a student has successfully completed a Saint Paul College Credit by Exam/Test-Out of ASLS 1411 American Sign Language 1 and/or ASLS 1412 American Sign Language 2, then ASLS 1415 American Sign Language 5 is strongly recommended. Students who have not had recent ASL courses (within the past 2 years) at date of application will need to refresh their skills by repeating their last ASL course.

# Sign Language Interpreter/Transliterater

Sign Language Interpreter/Transliterater  
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 professional conduct, history of deaf people and their culture, and the historical evolution 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.

## 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. Graduates will have opportunities to further their education and to specialize in their work through professional affiliations or by obtaining national certification. Graduates who plan to work in K-12 educational settings must obtain a Provisional Certificate which allows them to become a practitioner for a maximum of two years or until they obtain national certification.

## Program-Specific Admission Process

The Sign Language Interpreter/Transliterater program has a program-specific admission process. Please view Admission Requirements on the Sign Language

Interpreter/Transliterater program web page on the College Web site at [www.saintpaul.edu](http://www.saintpaul.edu). Admission requirements include completing the following course work before full acceptance into the Sign Language Interpreter/Transliterater AAS program:

- American Sign Language 1 with a “C” or better
- American Sign Language 2 with a “C” or better
- American Sign Language 3 with GPA of 3.0 in ASL 3 & ASL 4
- American Sign Language 4 with GPA of 3.0 in ASL 3 & ASL 4
- English Composition 1 (ENGL 1711 or comparable course) with a “C” or better
- Psychology throughout the Lifespan (PSYC 1720 or comparable course) with a “C” or better

Above average skills on college assessment tests for reading and writing English are used to determine entry into the program. Refer to the College Web site for the current Sign Language Interpreter/Transliterater program admission requirements.

Students who have not had recent ASL courses (within the past 18 months) at date of application will need to refresh their skills by repeating their last ASL course or complete a Credit by Examination/Test-Out. Note: Credit by Examination/Test-Out is available for ASL 1 and ASL 2 only. Credit by Examination/Test-Out are not transferable from another educational institution.

It is necessary for students in the Sign Language Interpreter/Transliterater Program to be able to process auditory information.

## 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 NAD-RID National Interpreter Certification (NIC) written exam.
2. Graduates will have knowledge and skills to interpret between American Sign Language and English.
3. Graduates will have the knowledge and skills to transliterate between spoken English and a signed form of English.
4. Graduates will have the knowledge and skills needed 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 employment as Sign Language Interpreters/Transliteraters.
6. Graduates will sit for national certification within two years of graduation.

# Sign Language Interpreter/ Transliterator AAS Degree

## Program Prerequisites

Course	Cr
ASLS 1411 American Sign Language 1 with a grade of "C" or better	3
ASLS 1412 American Sign Language 2 with a grade of "C" or better	3
ASLS 1413 American Sign Language 3 with a combined GPA of 3.0 in ASL 3 & ASL 4	3
ASLS 1414 American Sign Language 4 with a combined GPA of 3.0 in ASL 3 & ASL 4	3
ENGL 1711 English Composition 1 (or comparable course) with a grade of "C" or better	4
PSYC 1720 Psychology throughout the Lifespan	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 1442 Comparative English/ASL Grammar	2
INTP 1511 Interpreting Process	3
INTP 1512 Consecutive Interpreting 1	4
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 2550 Community Resources Seminar	1
INTP 2585 Internship Seminar	1
INTP 2591 Interpreter Internship	6
<b>Select 4 credits from the following electives: **</b>	<b>4</b>
ASLS 1415 American Sign Language 5	3
ASLS 1443 ASL Fingerspelling and Numbers	3
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
INTP 2410 Video Relay/Video Remote Interpreting	2
INTP 2450 Deaf/Blind Interpreting	2
<b>Subtotal</b>	<b>56</b>
<b>General Education Requirements</b>	<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)	
<b>Total Program Credits</b>	<b>72</b>

\*\* 2 Technical Electives must come from INTP 2410 Video/Relay/Video Remote Interpreting **OR** INTP 2450 Deaf/Blind Interpreting

## AAS Degree General Education Requirements\*

16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

PSYC 1720 Psychology throughout the Lifespan – 3 cr (required)

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.

## Optional Courses for Interpreter/Transliterator Program (Most courses require prerequisites)

Course	Cr
<b>Optional Courses:</b>	
ASLS 1469 Deaf Heritage of Minnesota	2
ASLS 1470 ASL Discourse	2
INTP 1465 Special Topics (Interpreting)	1-5

## Bachelor of Arts Degree

The Sign Language Interpreter/Transliterator program has a formal articulation agreement with Metropolitan State University leading to a Bachelors Degree in Psychology with an emphasis in Sign Language Interpreting or an individualized Bachelor of Arts degree through First College.

# English for Speakers of Other Languages (ESOL)

## Program Overview

The English for Speakers of Other Languages (ESOL) program and courses are designed to help non-native speakers of English to enter and succeed in the community and technical college system as well as in the transfer curriculum.

ESOL skills courses focus on speaking and listening, reading and vocabulary, writing and grammar, and pronunciation. In addition, students take an integrated skills course which gives them an opportunity to explore various topics and practice all their language skills together.

Depending on their intended major, students completing the ESOL program may begin one of the trade programs, enroll in general education courses, or require further developmental coursework in English and/or Reading.

Students interested in enrolling in the ESOL program must take the ESL Accuplacer test. This test assesses a student's reading, listening and grammar ability.

## Program Outcomes

1. Enter a trade program, take general education courses or, if needed, take further developmental coursework
2. Demonstrate an ability to understand written and spoken English
3. Communicate effectively in written and spoken English
4. Understand academic and cultural expectations for American colleges
5. Apply critical thinking skills

## English for Speakers of Other Languages Courses (ESOL)

Required Core Courses		Cr
ESOL 0725	High Intermediate Reading & Vocabulary	4
ESOL 0735	High Intermediate Speaking & Listening	4
ESOL 0745	High Intermediate Writing & Grammar	4
ESOL 0750	High Intermediate Integrated Skills	3
ESOL 0825	Advanced Reading & Vocabulary	4
ESOL 0835	Advanced Speaking & Listening	4
ESOL 0845	Advanced Writing & Grammar	4
ESOL 0850	Advanced Integrated Skills	3
Electives		Cr
ESOL 0820	Pronunciation and Articulation	1
ESOL 0840	ESL for Working Adults	3



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# Liberal Arts and Sciences

The Liberal Arts and Sciences division of Saint Paul College encompasses English, Speech and Theatre, Fine Arts and Humanities, Social and Behavioral Sciences, Natural and Physical Sciences, Mathematics and Engineering. These areas provide the foundation of academic study for students enrolled in AA, AS, and AAS degree programs. Carrying out the Minnesota Transfer Curriculum's ten goal requirements and outcomes, the broad-based 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 excellence in teaching with a student-centered focus in traditional and online course offerings.

## Educational Degree Programs

- Associate in Arts Degree in Liberal Arts and Sciences
- Associate in Science Degree
- Associate in Applied Science Degree

Associate in Arts Degree (AA) Preparation for a Bachelor's Degree. The Associate in Arts degree (AA) is awarded for successful completion of a program of 60 semester credits in the Liberal Arts and Sciences and is designed to constitute the first two years of a four-year degree. The AA degree is intended primarily for students who plan to transfer to another college to complete a bachelor's degree. No specific major is listed in conjunction with the degree; however, many students choose to concentrate in a particular field of study as preparation for a planned major at a four-year college or university. Students may choose to follow one of the AA Pre-Major Tracks or develop an individual plan within the general AA degree. Both options are designed to identify the appropriate core of courses for transfer in a student's major to their chosen four-year college or university. At least 40 of the 60 credits must be taken within the Minnesota Transfer Curriculum (MnTC). Students are strongly encouraged to develop an educational plan in consultation with a Saint Paul College Transfer Specialist to assure that degree requirements are fulfilled.

## Objectives

Upon completion of the AA curriculum, the student will have acquired the following competencies:

- Knowledge of important concepts and principles of the natural and physical sciences, mathematics, history, social and behavioral sciences, arts, and humanities.
- Skills necessary for work and life roles, including skills in thinking, communication and methods of inquiry and application of knowledge.

- Critical examination of and appreciation for diverse peoples, cultures, and life roles.
- Pre-major competencies for selected emphasis.

## Distribution Requirements – Associate in Arts Degree (60 credits total)

All courses must be numbered 1700 or higher.

## Required Minnesota Transfer Curriculum (MnTC) Distribution\* (40 credits)

MnTC Goal 1 Communication, 3 courses

MnTC Goal 2 Critical Thinking, Fulfilled when 10 goal areas are completed

MnTC Goal 3 Natural Science, 2 courses

MnTC Goal 4 Mathematical/Logical Reasoning, 1 course

MnTC Goal 5 History/Social Sciences/Behavioral Sciences, 3 courses

MnTC Goal 6 Humanities/Fine Arts/Literature, 3 courses

MnTC Goal 7 Human Diversity, 1 course

MnTC Goal 8 Global Perspective, 1 course

MnTC Goal 9 Ethic and Civic Responsibility, 1 course

MnTC Goal 10 People and the Environment, 1 course

More information can be found on the Minnesota Transfer Curriculum (MnTC) page.

\* Some courses may be applied to more than one goal area to complete the 10 goals with fewer than 40 credits. If this occurs, additional credits from the 10 goals listed must be taken to complete a minimum of 40 credits.

## Electives, Liberal Arts and Sciences, Pre-Major (20 credits)

Courses generally numbered 1700 and above from any department may be used to fulfill these electives. These electives may be freely chosen or selectively used for transfer requirements. The Pre-Major Tracks in the AA degree or individual educational plans developed with a transfer specialist are used to focus these electives to meet transfer coursework for specific majors. Consult with a transfer specialist about course options for the pre-major electives.

## Preparation for a Bachelor's Degree

An Associate in Arts degree allows students to complete both general education requirements and pre-major requirements for a wide range of majors and programs at four-year colleges and universities. Students may choose to follow one of the Pre-Major Tracks within the AA degree or develop an individual educational plan to focus their course selection on their transfer plans. Students are to consult with a Saint Paul College Transfer Specialist to assure that courses taken at Saint Paul College fulfill the requirements of a particular field of study.

Listed below are examples of the bachelor degree or pre-professional programs a student may begin at Saint Paul College.

Accounting	Professional Study
Human Resources Management	Interdisciplinary Studies
Agriculture	Industrial Education
Anthropology	Information Networking
Architecture	Kinesiology
Art	Liberal Arts
Art History	Mass Communications
Biology	Mathematics
Biomedical Engineering Technology	Medical Terminology
Business Management and Administration	Medicine
Chemistry	Nursing
Communications & Speech	Paralegal
Computer and Information Technology	Pharmacy
Computer Science	Philosophy
Construction Management	Physical Therapy
Criminal Justice	Physics
Economics	Political Science
Elementary Education	Pre-Engineering
English	Psychology
Geography	Secondary Education
Geology	Social Work
History	Speech Communication
Humanities	Statistics
Hospitality Management	Theatre Arts
Individualized	Veterinary Medicine
	World Language
	Zoology

## Anthropology

### 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. Anthropology courses fulfill Minnesota Transfer Curriculum requirements and graduation requirements.

Course		Cr
ANTH1710*	Introduction to Cultural Anthropology	4
ANTH1720*	Introduction to Physical Anthropology	4
ANTH 1790	Special Topics in Anthropology	3

\* Traditional, Web enhanced and online sections available

## Art

### 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. The instructors are committed to excellence in teaching and scholarship.

The fine arts 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 fulfill requirements for the Minnesota Transfer Curriculum, as well as graduation requirements.

Course		Cr
ARTS 1710	Fundamentals of Photography 1	3
ARTS 1711	Fundamentals of Photography 2	3
ARTS 1712	Advanced Photography	3
ARTS 1715	Black & White Photography	3
ARTS 1720*	Art Appreciation	3
ARTS 1722	American Animation	3
ARTS 1724	The Design of Everyday Life	3
ARTS 1726	Art in the Cities	3
ARTS 1730	Drawing 1	3
ARTS 1731	Drawing 2	3
ARTS 1740	Introduction to Painting	3
ARTS 1742	Intermediate Painting	3
ARTS 1744	Introduction to Watercolor Painting	3
ARTS 1750	Introduction to Ceramics	3
ARTS 1752	Intermediate Ceramics	3
ARTS 1760*	World Art	3
ARTS 1770*	Art in the Americas	3
ARTS 1790*	History of Photography	3
ARTS 1795	Special Topics in Art	3
ARTS 2710	Advanced Studio Arts	3-4
ARTS 2754	Advanced Ceramics	3

\* Traditional, Web enhanced and online sections available

## Biology

### Overview

The Biology department provides high quality educational experiences in the biological sciences including: environmental science, general biology for majors and non-majors, microbiology, nutrition, medical terminology, introduction to forensic science, biology of men and women and human anatomy and physiology for majors and non-majors.

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 providing a variety of lab/field experiences and online applications.

Course		Cr
BIOL 1471	Biomedical Terminology	2
BIOL 1720*	Environmental Science: Current Issues	3
BIOL 1725*	Environmental Science	4
BIOL 1730*	Human Body Systems	3
BIOL 1735	Exploring Biology	4
BIOL 1740*	General Biology 1: The Living Cell	5
BIOL 1745	General Biology 2: The Living World	5
BIOL 1760*	Nutrition	3
BIOL 1782*	Introduction to Forensic Science	4
BIOL 1785*	Biology of Men and Women	3
BIOL 2721*	Human Anatomy and Physiology 1	4
BIOL 2722*	Human Anatomy and Physiology 2	4
BIOL 2750*	General Microbiology	4
BIOL 2770	Biology Internship	1-4

\* Traditional, Web enhanced and online sections available.

## Chemistry

### 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 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 fulfill requirements for general education and graduation requirements.

Course		Cr
CHEM1700*	Chemistry Concepts	4
CHEM 1701	Chemical Technology Seminar	1
CHEM 1711	Principles of Chemistry 1	4
CHEM 1712	Principles of Chemistry 2	4
CHEM 1760	Chemical Technology Lab Skills and Instrumentation	3
CHEM 1761	Chemical Technology Lab Safety, Environmental Rules and Regulations	3
CHEM 1770	Chemical Technology Internship	3
CHEM 2711	Organic Chemistry 1	4
CHEM 2712	Organic Chemistry 2	4

\* Traditional, Web enhanced and online sections available.

## Chemical Technology

Chemical Technology AS Degree . . . . . 60 Credits  
 Chemical Technology Certificate . . . . . 26 Credits

### Chemical Technology AS Degree

#### Program Overview

The Chemical Technology AS Degree is designed for students planning to complete chemistry courses and general education requirements for transfer to a four-year program and/or for employment as a chemical laboratory assistant.

#### Program Requirements

Course		Cr
CHEM 1701	Chemical Technology Seminar	1
CHEM 1711	Principles of Chemistry 1	4
CHEM 1712	Principles of Chemistry 2	4
CHEM 2711	Organic Chemistry 1	4
CHEM 2712	Organic Chemistry 2	4
PHYS 2700	General Physics 1 (with Calculus)	5
PHYS 2710	General Physics 2 (with Calculus)	5
<b>Subtotal</b>		<b>27</b>
<b>General Electives</b>		<b>3</b>
<b>General Education Requirements</b>		<b>30</b>
<b>Total Program Credits</b>		<b>60</b>

**AS Degree General Education Requirements\*** **30 Credits**

Students are required to complete ENGL 1711 and a Speech course from Goal 1 (7 credits) . . . . . 7

**Goal 1: Communication**

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX - 3cr (Goal 1 only)

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 14 additional credits from **Goals 1–10 of the Minnesota Transfer Curriculum . . . . . 14**

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.

## Chemical Technology Certificate

### Program Overview

The Chemical Technology Certificate prepares students to assist scientists in laboratories on the research and development of chemical processes and materials to meet society’s changing needs. Working in experimental laboratories or in manufacturing and industrial plants, technicians perform a number of important duties such as the operation of laboratory equipment, evaluating product quality and consistency and testing for environmental acceptability.

Students prepare for employment in a number of settings including Agriculture and Food Science, Forensics, Pharmaceutical, Industrial and Environmental Laboratories.

### Program Requirements

Course		Cr
CHEM 1701	Chemical Technology Seminar	1
CHEM 1711	Principles of Chemistry 1	4
CHEM 1712	Principles of Chemistry 2	4
CHEM 1760	Chemical Technology Laboratory Skills and Instrumentation	3
CHEM 1761	Chemical Technology Lab Safety, Environmental Rules and Regulations	3
CHEM 1770	Chemical Technology Laboratory Internship and Advanced Seminar	3
CHEM 2711	Organic Chemistry 1	4
CHEM 2712	Organic Chemistry 2	4
	<b>Total Program Credits</b>	<b>26</b>

## Engineering

Biomedical Engineering Technology AS Degree . . . . .	60 Credits
Biotechnology AS Degree . . . . .	60 Credits
Biotechnology Certificate . . . . .	27 Credits
Cleanroom Laboratory Advanced Certificate . .	17 Credits
Pre-Engineering AS Degree. . . . .	60 Credits

## Biomedical Engineering Technology AS Degree

### Program Overview

The Biomedical Engineering Technology AS Degree provides students with the skills for the growing field of biomedical engineering technology, which involves the design, construction, and use of electronic and mechanical devices to solve medically-relevant needs. Examples of work in this field include medical device design, fabrication and testing, physiological function monitoring, and biomedical informatics, among numerous other career paths. Math, science, and engineering courses are required program components of the program. The AS Degree is designed for transfer to a four-year degree in Biomedical Engineering Technology or related fields. It can also provide preparation for employment as biomedical technicians.

### Career Opportunities

The demand for increasingly sophisticated medical devices is driving an increased need for biomedical engineers. Biomedical engineers can be employed in a number of areas such as Bioinformatics, BioMEMS, Biomaterials, Biomechanics, Biosignal Processing, as well as Micro and Nanotechnology just to name a few. In addition, articulation agreements exist with 4-year degree granting institutions to pursue Bachelor’s degrees in the Biomedical Engineering Technology area.

### Program Outcomes

1. Apply knowledge of mathematics, science, and engineering in the solution of biomedical engineering problems.
2. Design and conduct experiments as well as analyze and interpret results.
3. Design a biomedical engineering system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Identify, formulate and solve engineering problems.
5. Understand professional and ethical responsibility.

6. Recognize the need for and develop an ability to engage in life-long professional development and learning.
7. Utilize techniques, skills, and modern engineering tools necessary for biomedical engineering practice.

## Biomedical Engineering Technology AS Degree

### Program Requirements

Course	Cr
BIOL 1471 Medical Terminology	2
BIOL 1730 Human Body Systems	3
BIOC 1761 Chemical & Biological Ethics and Regulations	4
BIOC 1760 Chemical & Biological Instrumentation	4
CHEM 1711 Principles of Chemistry 1	4
CHEM 1712 Principles of Chemistry 2	4
ENGR 1706 Principles of Engineering	2
ENGR 1708 Digital Electronics	2
ENGR 1712 Computer Integrated Manufacturing	2
ENGR 2700 Introduction to Problem Solving & Engineering Design	2
<b>Total Technical Credits</b>	<b>29</b>
<b>General Education Requirements</b>	<b>31</b>
<b>Total Program Credits</b>	<b>60</b>

### AS Degree General Education Requirements\* 31 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 (7 credits) . . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH 1710 Public Speaking – 3 cr

Select a minimum of 10 credits from Goal 3 . . . . . 10

#### Goal 3: Natural Sciences

- BIOL 1740 General Biology 1 – 5 cr
- BIOL 2760 Cell & Molecular Biology – 5 cr

Select a minimum of 8 credits from Goal 4 . . . . . 8

#### Goal 4: Mathematical/Logical Reasoning

- MATH 2749 Calculus 1 – 4 cr
- MATH 2750 Calculus 2 – 4 cr

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

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

## Biotechnology AS Degree\*\*

### Program Overview

The Biotechnology degree provides students with foundational skills in the growing field of biotechnology, preparing students to assist scientists in laboratories on the research and development of biotechnology processes and materials to meet society's changing needs. The AS degree is designed for students who intend to transfer to a four-year institution to complete a baccalaureate degree. It is also intended for students interested in employment as a

Biotechnology Technologist. The Biotechnology Certificate prepares students for employment as Biotechnology Technicians. The Cleanroom Laboratory Advanced Certificate prepares students for aseptic Cleanroom Laboratory research and production for employment or promotion in the field. Students are to consult with Transfer Center Specialists for assistance in program planning.

### Career Opportunities

The demand for biotechnology engineers is expected to grow faster than the average for all occupations through 2018. Biotechnology engineers can be employed in a number of areas such as Aquatic Biology, Biochemistry, Physiology, and Zoology just to name a few. In addition, articulation agreements exist with 4-year degree granting institutions to pursue Bachelor's degrees in the Biotechnology Engineering area.

### Program Outcomes

1. Apply knowledge of mathematics, science, and engineering in the solution of biotechnology problems.
2. Design and conduct experiments as well as analyze and interpret results.
3. Practice ethical standards of integrity, honesty, and fairness in scientific practices and professional conduct.
4. Communicate in a clear, well-organized manner that effectively informs and clarifies scientific principles and lab techniques.
5. Use scientific procedures and current emerging technologies to conduct safe and hygienic laboratory experiments.
6. Apply scientific knowledge and principles, quantitative methods, and technology to think critically and solve complex biotechnology problems.
7. Recognize the need for and develop an ability to engage in life-long professional development and learning.

## Biotechnology AS Degree\*\*

### Program Requirements

Course		Cr
BIOC 1760	Chemical & Biological Instrumentation	4
BIOC 1761	Chemical & Biological Ethics and Regulations	4
BIOL 1740	General Biology 1: The Living Cell	5
BIOL 2760	Cell & Molecular Biology	5
CHEM 1711	Principles of Chemistry 1	4
ENGR 1706	Principles of Engineering	2
<b>Subtotal</b>		<b>24</b>
<b>Technical Electives</b>		<b>12</b>
Any 12 credits BIOL or CHEM		
<b>General Education Requirements</b>		<b>24</b>
<b>Total Program Credits</b>		<b>60</b>

\*\*pending approval

### AS Degree General Education Requirements\*

**24 Credits**

Students are required to complete ENGL 1711 and a Speech course from Goal 1 (7 credits) . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH 1710 Public Speaking – 3 cr

Select a minimum of 8 credits from Goal 4 . . . . . 8

#### Goal 4: Mathematical/Logical Reasoning

MATH 2749 Calculus 1 – 4 cr  
MATH 2750 Calculus 2 – 4 cr

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 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.

## Biotechnology Certificate\*\*

### Program Overview

The Biotechnology Certificate provides students with foundational skills in the growing field of biotechnology. It prepares students for employment as Biotechnology Technicians to assist scientists in laboratories on research and development of biotechnology processes and materials to meet changing needs. Students are to consult with a Transfer Specialist for assistance with program planning.

### Program Requirements

Course		Cr
BIOC 1760	Chemical & Biological Instrumentation	4
BIOC 1761	Chemical & Biological Ethics and Regulations	4
BIOC 2700	Biochemistry	4
BIOL 1740	General Biology 1: The Living Cell	5
BIOL 2750	Microbiology	4
CHEM 1711	Principles of Chemistry 1	4
ENGR 1706	Principles of Engineering	2
<b>Total Program Credits</b>		<b>27</b>

\*\*pending approval

## Cleanroom Laboratory Advanced Certificate\*\*

### Program Overview

The Cleanroom Laboratory Advanced Certificate provides students with foundational skills in the growing field of biotechnology, preparing students to assist scientists in laboratories on research and development of biotechnology processes and materials to meet changing needs. The Cleanroom Laboratory Advanced Certificate prepares students for aseptic Cleanroom Laboratory research and production for employment or promotion in the field. Students are to consult with a Transfer Specialist for assistance with program planning.

### Program Requirements

Course		Cr
BIOC 1760	Chemical & Biological Instrumentation	4
BIOC 1761	Chemical & Biological Ethics and Regulations	4
CHEM 2790	Cleanroom Laboratory Internship and Advanced Seminar	3
<b>Subtotal</b>		<b>11</b>
<b>Technical Electives</b>		<b>6</b>
Any 6 credits BIOL or CHEM		
<b>Total Program Credits</b>		<b>17</b>

\*\*pending approval

## Pre-Engineering AS Degree

### Program Overview

Engineering is a profession that uses basic knowledge from the mathematical and natural sciences and utilizes the materials and forces of nature to develop systems that will perform optimally and economically for the benefit of mankind. The Pre-Engineering program is designed to provide for a student's first two years of a four-year Engineering degree. The curriculum is designed to meet the needs of those students who have not yet decided on a specific engineering field. The program focuses on developing a fundamental knowledge of physics, chemistry, and mathematics.

### Career Opportunities

The demand for biotechnology engineers is expected to grow faster than the average for all occupations through 2018. Engineering includes careers with branches in civil, agriculture, chemical, and aerospace sciences just to name a few. Saint Paul College has articulation agreements that exist with 4-year degree granting institutions to pursue Bachelor's degrees in many of these Engineering areas.

### Program Outcomes

1. Apply knowledge of mathematics, science, and engineering in the solution of engineering problems.
2. Design and conduct experiments as well as analyze and interpret results.
3. Design and engineering system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Understand professional and ethical responsibility.
5. Recognize the need for and develop an ability to engage in life-long professional development and learning.
6. Utilize techniques, skills, and modern engineering tools necessary for engineering practice.

## Pre-Engineering AS Degree

### Program Requirements

Course		Cr
CHEM 1711	Principles of Chemistry 1	4
ENGR 1706	Principles of Engineering	2
ENGR 1708	Digital Electronics OR	2
ENGR 1710	Civil Engineering Management	
ENGR 1714	Engineering CAD (ProE)	2
ENGR 2705	Statics	3
ENGR 2710	Dynamics	3
ENGR 2715	Mechanics of Materials OR	3
ENGR 2720	Engineering Analysis	
ENGR 2725	Thermal Analysis OR	2
ENGR 2730	Digital Logic	
MATH 2753	Calculus 3	4
MATH 2760	Ordinary Differential Equations	4
<b>Subtotal</b>		<b>29</b>
<b>General Education Requirements</b>		<b>31</b>
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\*

**31 Credits**

*Students are required to complete ENGL 1711 and a Speech course from Goal 1 (7 credits) . . . . . 7*

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH 1710 Public Speaking – 3 cr

*Select a minimum of 18 credits from Goal 3 or Goal 4 . . . 18*

#### Goal 3: Natural Sciences

PHYS 2700 General Physics 1 (with calculus)  
PHYS 2710 General Physics 2 (with calculus)

#### Goal 4: Mathematical/Logical Reasoning

MATH 2749 Calculus 1  
MATH 2750 Calculus 2

*Select a minimum of 3 credits from Goal 5 . . . . . 3*

#### Goal 5: History, Social Sciences and Behavioral Sciences

ECON 1720 Macroeconomics OR  
ECON 1730 Microeconomics recommended

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

#### Goal 6: Humanities and Fine Arts

ARTS 1724 The Design of Everyday Life recommended

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

## English

### 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, an Introduction to Poetry and others. 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 1460**	Applied Interpersonal Communications	3
COMM 1485**	Employment Portfolio Development and Presentation	2
COMM 1510**	Customer & Occupational Relations	3
ENGL 1410**	Fundamentals of Writing 1	4
ENGL 1415**	Fundamentals of Writing 2	4
ENGL 1711*	Composition 1	4
ENGL 1712*	Composition 2	2
ENGL 1720	Introduction to Creative Writing	3
ENGL 1730*	Introduction to Technical Writing	3
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 2732	Exploring the Short Story	3
ENGL 2740*	Native American Literature	3
ENGL 2750*	African American Literature	3
ENGL 2760*	English Novel	3
ENGL 2770*	Introduction to Poetry	3
ENGL 2775*	Science Fiction and Fantasy	3
ENGL 2778*	Urban Literature—Lost in the City	3

\* Traditional, Web enhanced and online sections available.

\*\* Does not meet MnTC Distribution Requirements

## Geography

### Overview

The College offers Geography courses to fulfill the Minnesota Transfer Curriculum requirements and graduation requirements. The department will be expanding and adding new courses to the curriculum. Currently the department offers courses in Physical Geography, Human Cultural Geography, Global Economic Geography, Minnesota Geography and World Geography.

Course		Cr
GEOG 1700*	Physical Geography	3
GEOG 1720*	Human/Cultural Geography	3
GEOG 1730	Global Economic Geography	3
GEOG 1740	World Geography	3
GEOG 1750*	Minnesota Geography	3

\* Traditional, Web enhanced and online sections available.

## History

### 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 survey courses in American history and the history of world civilizations, (please note, however, that students are not required to take these survey courses in chronological order). Additional courses are offered in Minnesota history, immigration and the ethnic history of the United States, the history of women in the United States, and contemporary world history. The department also offers a Special Topics in History course.

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 graduation requirements.

Course		Cr
HIST 1730*	Contemporary World History	3
HIST 1745*	U.S. History to 1865	4
HIST 1746*	U.S. History since 1865	4
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
HIST 2780*	Special Topics in History	1-3

\* Traditional, Web enhanced and online sections available.

## Humanities

### 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 graduation 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

## Interdisciplinary Studies

The newly designed Honor's courses provide areas of study for Phi Beta Kappa Honors Society topics and leadership development for work and life roles.

Course		Cr
INTS 1797	Honors Special Topics	1-4
INTS 1798	Honors Colloquy	1
INTS 1799	Honors Seminar	1

## Mathematics

### 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, 2, and 3, and Ordinary Differential Equations. Courses fulfill Minnesota Transfer Curriculum requirements and graduation requirements.

Course		Cr
MATH 0741**	Math Fundamentals 1	3
MATH 0742**	Math Fundamentals 2	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 2749	Calculus 1	4
MATH 2750	Calculus 2	4
MATH 2753	Calculus 3	4
MATH 2760	Ordinary Differential Equations	4

\* Traditional, Web enhanced and online sections available.

\*\* Does not meet MnTC Distribution Requirements

## Music

### Overview

The College offers Music courses to fulfill the Minnesota Transfer Curriculum requirements and graduation requirements. The department will be expanding and adding new courses to the curriculum.

Course		Cr
MUSC 1740	Music Appreciation	3
MUSC 1750	Jazz History	3

## Natural Sciences

### Overview

The Natural Sciences department offers courses across the curriculum in the areas of earth science, geology, oceanography, meteorology, natural disasters, descriptive astronomy, introduction to energy and the environment, contemporary issues in science and Minnesota Geology. Natural Science courses fulfill Goals 3, 9 & 10 of the Minnesota Transfer Curriculum, as well as graduation requirements.

Course		Cr
NSCI 1710	Earth Science	4
NSCI 1721	Introduction to Geology	4
NSCI 1730*	Introduction to Oceanography	3
NSCI 1740*	Introduction to Meteorology	3
NSCI 1750*	Natural Disasters	3
NSCI 1760	Descriptive Astronomy	3
NSCI 1770	Introduction to Energy and the Environment	3
NSCI 1780*	Contemporary Issues in Science	3
NSCI 1782	Minnesota Geology	3
NSCI 2770	Natural Sciences Internship	1-4

\* Traditional, Web enhanced and online sections available.

## Philosophy

### 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 graduation requirements.

Course		Cr
PHIL 1700	Introduction to Philosophy	3
PHIL 1710*	Logic	3
PHIL 1715	Philosophy of Scientific Reasoning	3
PHIL 1720*	Ethics	3
PHIL 1722*	Health Care Ethics	3
PHIL 1740	World Mythology	3
PHIL 1742	Greek and Roman Mythology	3
PHIL 1750	Eastern Philosophy	3
PHIL 1760	World Religions	3

\* Traditional, Web enhanced and online sections available.

## Physics

### Overview

The department offers Principles of Physics 1 and 2 as well as General Physics 1 and 2 with a calculus base. Students enroll in physics courses to fulfill the Minnesota Transfer Curriculum requirements and graduation requirements.

Course		Cr
PHYS 1720	Principles of Physics 1	4
PHYS 1722	Principles of Physics 2	4
PHYS 2700	General Physics 1 (with Calculus)	5
PHYS 2710	General Physics 2 (with Calculus)	5

## Political Science

### Overview

The Political Science faculty prepare students for involved citizenship and an understanding of the fundamentals of political systems. Students enroll in political science courses to fulfill Minnesota Transfer Curriculum requirements and graduation requirements.

Course		Cr
POLS 1720*	Introduction to American Government	3
POLS 1740	Introduction to World Politics	3
POLS 1750	Introduction to Political Science	3
POLS 1760	Modern Political Ideologies	3

\* Traditional, Web enhanced and online sections available.

## Psychology

### 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 obtain 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 requirements and graduation requirements.

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
PSYC 1760	Social Psychology	4

\* Traditional, Web enhanced and online sections available.

## Sociology

### Overview

The Sociology faculty strive to promote social awareness, active citizenship 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 requirements and graduation requirements.

Course		Cr
SOCI 1710*	Introduction to Sociology	4
SOCI 1720*	Social Problems	3
SOCI 1730*	Sociology of Families and Relationships	3
SOCI 1740*	Sociology of Work	3
SOCI 1760*	Mass Media and Society	4
SOCI 1765*	Sociology of Crime and Deviance	3
SOCI 1766*	Juvenile Delinquency	3
SOCI 1772*	Introduction to Criminal Justice	3
SOCI 1780*	Social Psychology	4
SOCI 1790*	Special Topics in Sociology	1-3
SOCI 2760*	Sociology Through Film and Music	3

\* Traditional, Web enhanced and online sections available.

## Spanish

### Overview

Spanish courses are designed to develop proficiency in Spanish speaking, listening, reading, and writing; an appreciation for cultural diversity; and the application of conversational Spanish to work and life roles. Beginning and Intermediate-level courses are offered. Students with two-years of high school Spanish are generally prepared for beginning courses while students with three to four years of high school Spanish are generally ready to enter intermediate courses. Students who enroll in Spanish courses fulfill the Minnesota Transfer Curriculum requirements as well as graduation requirements.

Course		Cr
SPAN 1710	Beginning Spanish 1	5
SPAN 1720	Beginning Spanish 2	5
SPAN 1730	Intermediate Spanish 1	5
SPAN 1740	Intermediate Spanish 2	5
SPAN 1790	Spanish for the Workplace	3

## Speech

### Overview

Rhetoric is where the study of Speech Communication began. By 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 requirements and graduation 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	Podcasting and Vodcasting Production	
	Theories and Techniques	3
SPCH 1746*	Principles of Oral Expression	3
SPCH 1750	Small Group Communication	3
SPCH 1770*	Family Communication	3
SPCH 1780*	Gender Communication	3
SPCH 1781*	Effective Listening	3
SPCH 1782	Organizational Communication	3

\* Traditional, Web enhanced and online sections available.

## Theatre

### Overview

The Theatre Department course offerings cover both the theoretical and performance aspects of theatre. Students who enroll in Theatre courses fulfill the Minnesota Transfer Curriculum requirements as well as graduation requirements.

Course		Cr
THTR 1710*	Introduction to Theatre	3
THTR 1720	Exploring the Theatre Arts	3
THTR 1730	Theater Stagecraft and Production	3

\* Traditional, Web enhanced and online sections available.

## Women's and Gender Studies

### Overview

The Women's and Gender Studies course and related coursework emphasizes collaborative learning across academic disciplines with a focus on women and gender relationships. Several courses in the Liberal Arts and Sciences include an emphasis on gender analysis that links the content. Students are encouraged to contact the transfer specialists for information on four-year colleges and universities that offer a major or minor in Women's and Gender Studies. Students enroll in Women's and Gender Studies and related courses to fulfill Minnesota Transfer Curriculum requirements as well as graduation requirements.

Course		Cr
WGST 1785*	Foundations in Women's Studies	3
<b>Related courses across the disciplines:</b>		
BIOL 1785	Biology of Men and Women	3
HIST 1770	History of Women in the United States	3
SOCI 1730*	Sociology of Families and Relationships	3
SPCH 1780*	Gender Communication	3

\*Traditional, Web enhanced and online sections available.

# Manufacturing and Technology Programs

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## Energy Process Technology

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Energy Process Technology AAS Degree  
Energy Process Technology Certificate

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## Land Surveying Technology

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Land Surveying Technology AAS Degree  
Land Surveying Technology Diploma

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## Manufacturing Technology

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Manufacturing Technology AAS Degree  
Machine Tool Diploma  
CNC Programming Certificate

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## 360° Multi-Institution Integrated Technology Programs

128

Machine Technologist Certificate  
Production Technologies Certificate

# Energy Process Technology

Energy Process Technology AAS Degree . . . . . 65 Credits  
 Energy Process Technology Certificate . . . . . 19 Credits

## Program Overview

The Energy Process Technology Program is designed to develop the student's knowledge and skills in the energy 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, lubrications, bearings, couplings, gears, chains, v-belts and riggings 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	3
ENGY 2430	Boiler Engineer Licensing	2
ENGY 2510	Regulatory Compliance	3
ENGY 2520	Valves and Gaskets	2
ENGY 2530	Power Plant Industrial Maintenance	4
MATH 1411	Applied Mathematics	3
WELD 1410	Oxy-Acetylene Welding, Cutting and Brazing	3
<b>Subtotal</b>		<b>39</b>
<b>General Education Requirements</b>		<b>20</b>
(Select at least 20 credits of General Education according to the requirements listed below)		
<b>Other Education Requirements</b>		<b>6</b>
Electives (General Ed or Occupational)		
<b>Total Program Credits</b>		<b>65</b>

### Process Plant Technology Emphasis\*\*

Course		Cr
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
<b>Total Emphasis Credits</b>		<b>17</b>

\*\* 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 a Speech course from Goal 1. . . . . 7

**Goal 1: Communication**

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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 Process Technology Certificate

### Program Requirements

Course		Cr
ENGY 1520	Hydraulics	3
ENGY 1530	Equipment Repair	4
ENGY 2420	Energy Production	3
INMM 1510	Lubrication/Bearings/Couplings	3
WELD 1410	Oxy-Acetylene Welding, Cutting and Brazing	3
WELD 1420	SMAW E6013	3
<b>Total Program Credits</b>		<b>19</b>

## Land Surveying Technology

Land Surveying Technology AAS Degree . . . . . 60 Credits  
Land Surveying Technology Diploma . . . . . 42 Credits

### Program Overview

Land Surveying 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, 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 Land Surveying Technology Associate of Applied Science 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 AAS degree program who have a bachelor's 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.

### 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. Graduates from the BS degree, with additional experience, may qualify to take the Minnesota Licensed Land Surveyors examination.

## Land Surveying Technology AAS Degree

### Program Requirements

Course		Cr
LSUR 1401	Survey 1 – Fundamentals	4
LSUR 1402	Survey CAD & Computations 1	4
LSUR 1501	Survey 2 – Intermediate	4
LSUR 1502	Survey CAD & Computations 2	4
LSUR 1505	Occupational Internship	3
LSUR 2401	Survey 3 – Advanced	4
LSUR 2402	Survey CAD & Computations 3	4
LSUR 2501	Property Surveys	4
LSUR 2502	Site Design & Platting	4
<b>Subtotal</b>		<b>35</b>
<b>General Education Requirements</b>		<b>25</b>
(Select at least 25 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>60</b>

### AS Degree General Education Requirements\* 25 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

Select a minimum of 3 credits from Goal 3 or Goal 4. . . . . 7

#### Goal 3: Natural Sciences

PHYS 1720 Principles of Physics 1 or higher is required

#### Goal 4: Mathematical/Logical Reasoning

MATH 1730 College Algebra or higher is required

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 13 additional credits from

**Goals 1-10 of the Minnesota Transfer Curriculum. . . . . 5**

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

## Land Surveying Technology Diploma

### Program Requirements

Course		Cr
LSUR 1401	Survey 1 – Fundamentals*	4
LSUR 1402	Survey CAD & Computations 1	4
LSUR 1501	Survey 2 – Intermediate	4
LSUR 1502	Survey CAD & Computations 2	4
LSUR 1505	Occupational Internship	3
LSUR 2401	Survey 3 – Advanced	4
LSUR 2402	Survey CAD & Computations 3	4
LSUR 2501	Property Surveys	4
LSUR 2502	Site Design & Platting	4
<b>Subtotal</b>		<b>35</b>
<b>General Education Requirements</b>		<b>7</b>
(MATH 1730 or higher AND PHYS 1720 or higher is required)		
<b>Total Program Credits</b>		<b>42</b>

\* Math is a prerequisite

## Manufacturing Technology

Manufacturing Technology AAS Degree . . . . . 72 Credits  
Machine Tool Diploma . . . . . 48 Credits  
CNC Programming Certificate . . . . . 16 Credits

### Program Overview

This area produces skilled craftspeople who make precision metal parts that are highly specialized and not mass produced. Machinists produce parts from metal castings, forgings, and 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. Manufacturing 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.

## Manufacturing Technology AAS Degree

### Program Requirements

Course	Cr	
CNCT 1410	Introduction to Manufacturing Processes	4
CNCT 1420	Engineering Drawings	4
CNCT 1430	Materials Processes 1	4
CNCT 1431	Materials Processes 2	4
CNCT 1710	Shop Calculations	2
CNCT 1720	Geometric Dimensioning	2
CNCT 1730	CNC 1	4
CNCT 1731	CNC 2	4
CNCT 1740	Design Principles	4
CNCT 2410	Tool Design	4
CNCT 2420	Mechanical Systems/EDM	4
CNCT 2430	Mold/Plastic Technology	4
CNCT 2520	CAD	4
CNCT 2530	CNC Lathe	4
CNCT 2540	Computer Aided Manufacturing	4
<b>Subtotal</b>		<b>56</b>
<b>General Education Requirements</b>		<b>16</b>
(Select at least 16 credits of General Education according to the requirements listed below)		
<b>Total Program Credits</b>		<b>72</b>

### AAS Degree General Education Requirements\*

16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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

#### Goal 3: Natural Sciences

PHYS 1720 Principles of Physics 1 – 4 cr OR

#### 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

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

## Machine Tool Diploma

### Program Requirements

Course	Cr	
CNCT 1410	Introduction to Manufacturing Processes	4
CNCT 1420	Engineering Drawings	4
CNCT 1430	Materials Processes 1	4
CNCT 1431	Materials Processes 2	4
CNCT 1710	Shop Calculations	2
CNCT 1720	Geometric Dimensioning	2
CNCT 1730	CNC 1	4
CNCT 1731	CNC 2	4
CNCT 1740	Design Principles	4
CNCT 2410	Tool Design	4
CNCT 2420	Mechanical Systems/EDM	4
CNCT 2430	Mold/Plastic Technology	4
CNCT 2440	Manufacturing Applications	4
<b>Total Program Credits</b>		<b>48</b>

## CNC Programming Certificate

### Program Requirements

Course	Cr	
CNCT 2510	Mechanical Applications	4
CNCT 2520	CAD	4
CNCT 2530	CNC Lathe	4
CNCT 2540	Computer Aided Manufacturing	4
<b>Total Program Credits</b>		<b>16</b>

# 360° Multi-Institution Integrated Technology Programs

Machine Technologist Certificate . . . . . 15 Credits  
 Production Technologies Certificate . . . . . 15 Credits

## Machine Technologist

### Program Overview

This certificate will provide the first series of courses designed to be an introduction to production technologies and machining technology and provide initial information to start students on a career pathway. Included in coursework, students will engage in topics of technical mathematics, introductory computer skills, print interpretation, manufacturing processes, quality control, maintenance, and safety. Also, included in coursework, students will engage in topics of machine tool print reading, machine tool technology theory and lab principles, machining math, introduction to computer numerical control, and geometric dimensioning and tolerancing.

### Program Outcomes

1. Graduates will gain a general knowledge of machining technology.
2. Graduates will gain knowledge and understanding of interpreting machine tool prints.
3. Graduates will apply machining mathematics skills to production processes.
4. Graduates will demonstrate basic understanding of computer numeric control.
5. Graduates will gain knowledge and understanding of geometric measuring and tolerancing.

## Machine Technologist Certificate

### Program Requirements

Course		Cr
CMAE 1532	Machine Tool Print Reading	2
CMAE 1534	Machine Tool Technology Theory	2
CMAE 1536	Machine Tool Technology Lab 1	2
CMAE 1538	Machine Tool Technology Lab 2	2
CMAE 1530	Machining Math	2
CMAE 1540	Introduction to CNC Machining	3
CMAE 1542	Geometric Dimensioning and Tolerancing	2
<b>Total Program Credits</b>		<b>15</b>

## Production Technologies

### Program Overview

This certificate will provide the first series of courses designed to be an introduction to production technologies and provide initial information to start students on a career pathway. Included in coursework, students will engage in topics of technical mathematics, introductory computer skills, print interpretation, manufacturing processes, quality control, maintenance, and safety.

### Program Outcomes

1. Graduates will gain a general knowledge of electronics technology and automation.
2. Graduates will gain knowledge and understanding of AC/DC power.
3. Graduates will demonstrate basic understanding of digital electronics.
4. Graduates will gain knowledge and understanding of analog circuits.
5. Graduates will demonstrate basic understanding of motor controls.

## Production Technologies Certificate

### Program Requirements

Course		Cr
CMAE 1502	Technical Mathematics	3
CMAE 1506	Introduction to Computer Applications	2
CMAE 1510	Print Reading	2
CMAE 1514	MSSC Safety	2
CMAE 1518	MSSC Manufacturing Process and Production	2
CMAE 1522	MSSC Quality Practice and Measurement (10 hours print reading)	2
CMAE 1526	MSSC Maintenance Awareness	2
<b>Total Program Credits</b>		<b>15</b>

# Transportation, Construction and Building Programs

<b>Auto Body Repair</b>	<b>130</b>
	Auto Body Repair AAS Degree Auto Body Repair Diploma
<b>Automotive Service</b>	<b>131</b>
	Automotive Service Technician Diploma Automotive Service Technician AAS Degree <b>NEW!</b> Automotive Service Technician Certificate
<b>Cabinetmaking</b>	<b>133</b>
	Cabinetmaking Diploma
<b>Carpentry</b>	<b>134</b>
	Carpentry Diploma
<b>Construction Supervisor</b>	<b>134</b>
	Construction Supervisor AAS Degree
<b>Electrical Maintenance</b>	<b>135</b>
	Electrical Maintenance Certificate
<b>Electrical Technology</b>	<b>136</b>
	Electrical Technology Diploma Electrical Technology AAS Degree
<b>Floor Covering</b>	<b>137</b>
	Floor Covering Certificate
<b>Ironworker</b>	<b>137</b>
	Ironworker Certificate
<b>Pipefitting</b>	<b>138</b>
	Pipefitting Construction Certificate Pipefitting Diploma Pipefitting Apprenticeship Building Trades Diploma Pipefitting Apprenticeship Service Diploma
<b>Plumbing</b>	<b>139</b>
	Plumbing Diploma
<b>Sheet Metal</b>	<b>140</b>
	Sheet Metal Diploma
<b>Truck Technician</b>	<b>140</b>
	Truck Technician Diploma
<b>Welding Technology</b>	<b>141</b>
	Welding Technology AAS Welding Technology Diploma Welding Certificate

# Auto Body Repair

Auto Body Repair AAS Degree . . . . . 66 Credits  
 Auto Body Repair Diploma . . . . . 49 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 journeyman 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 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 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 Finish & 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 & Auto Electric	3
ABDY 1581	Welding – Auto Body 1	2
ABDY 1582	Welding – Auto body 2	3
	<b>Subtotal</b>	<b>46</b>
	<b>General Education Requirements</b>	<b>20</b>
	(Select at least 20 credits of General Education according to the Requirements listed below)	
	<b>Total Program Credits</b>	<b>66</b>

## AAS Degree General Education Requirements\*

**20 Credits**

*Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7*

### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX – 3 cr (Goal 1 only)

*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.

## 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 Finish & 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 & Auto Electric	3
ABDY 1581	Welding – Auto Body 1	2
ABDY 1582	Welding – Auto body 2	3
	<b>Subtotal</b>	<b>46</b>
	<b>General Education Requirements</b>	<b>3</b>
	<b>Total Program Credits</b>	<b>49</b>

## Automotive Service

Automotive Service Technician AAS . . . . .	72 Credits
Automotive Service Technician Diploma . . . . .	69 Credits
Automotive Service Technician Certificate . . . . .	34 Credits

## Automotive Service Technician AAS Degree

### 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 nationwide.

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.

The auto technician may work in a dealership garage, an independent garage, or as a specialist. Opportunities exist for a technician to become 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 AAS Degree

### 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 1522	Four Wheel Drive & Differential	4
AUTO 1530	Basic Electrical & Battery	3
AUTO 1540	Basic Engine Management	3
AUTO 1550	Heating & Air Conditioning	4
AUTO 1570	Basic Auto Welding	2
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 Drivability	3
<b>Subtotal</b>		<b>56</b>
<b>General Education Requirements</b>		<b>16</b>
<b>Total Program Credits</b>		<b>72</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7

#### Goal 1: Communication

- ENGL 1711 Composition 1 – 4 cr
- SPCH XXXX – 3 cr (Goal 1 only)

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

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

## Automotive Service Technician Diploma

### Program Overview

This program prepares technicians to perform automotive repairs on complex automobiles at the Technician level. Upon completion of the program students may qualify for the Master Technician designation by passing all 8 of the Automotive Service Excellence (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.
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 required of an automotive service technician.

## Automotive Service Technician Diploma

### 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 1522	Four Wheel Drive & Differential	4
AUTO 1530	Basic Electrical & Battery	3
AUTO 1540	Basic Engine Management	3
AUTO 1550	Heating & Air Conditioning	4
AUTO 1570	Basic Auto Welding	2
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 Drivability	3
AUTO 2530	Automatic Transmission Theory	2
AUTO 2542	Automatic Transmission Diagnosis & Repair	4
AUTO 2550	Specialized Lab 1	2
AUTO 2570	Advanced Auto Welding	2
<b>Subtotal</b>		<b>66</b>
<b>General Education Requirements</b>		<b>3</b>
(MATH 1411 recommended)		
<b>Total Program Credits</b>		<b>69</b>

## Automotive Service Technician Certificate\*\*

### Program Overview

The Basic Automotive Technician program prepares entry level technicians to perform automotive repairs and service to automotive brakes, clutches, driveline, manual transmissions, basic electrical, alignment and suspension, basic tune-up and heating and air conditioning systems. Upon completion of the program students are prepared to take four of the Automotive Services Excellence (ASE) tests. Students may enter the automotive profession as brake and suspension, drive train, automotive HVAC, manual transmission and basic tune-up technicians or continue their education to obtain the Automotive Services Technician Diploma or AAS degree.

### Program Outcomes

1. Graduates will be prepared to take 4 ASE tests.
2. Graduates will have the skills to perform repairs on automobiles at a Basic Automotive Technician level.
3. Graduates will have proficient communication skills for customer service.

## Automotive Service Technician Certificate\*\*

### 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 1522	Four Wheel Drive & Differential	4
AUTO 1530	Basic Electrical & Battery	3
AUTO 1540	Basic Engine Management	3
AUTO 1550	Heating & Air Conditioning	4
AUTO 1570	Basic Auto Welding	2
<b>Total Program Credits</b>		<b>34</b>

\*\*pending approval

## 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 businesses.

### 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 in the safe operation of woodworking equipment.

## Cabinetmaking Diploma

### Program Requirements

Course		Cr
CABT 1410	Print Reading and Design	3
CABT 1415	Wood Technology	3
CABT 1425	Machining 1	5
CABT 1426	Machining 2	3
CABT 1431	Framed Cabinetry	5
CABT 2410	Laminates and Countertops	4
CABT 2441	Frameless Cabinetry	5
CABT 2510	CAD/CAM/CNC	4
MATH 1411	Applied Mathematics	3
<b>Total Program Credits</b>		<b>35</b>

### Strongly recommended

CABT 2550	AutoCAD 1 for Cabinetmaking	3
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# 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 apprenticeship program. Carpenter apprentices advance to journeyman 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
<b>Total Program Credits</b>		<b>42</b>

# 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 to process and implement OSHA regulations and recognize hazards.
3. Graduates will understand building specifications, the range of contract documents and specifications of change process and interpret contracts and legal documents the relationships 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 subcontractor or a general contractor, integrating the skills and knowledge learned and experienced in the program.

## Construction Supervisor AAS Degree

### Program Requirements

Course	Cr
BTEC 1445 Business Communication OR	
CNSP 2491 Advanced Estimating	3
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 2481 Advanced Scheduling	3
CNSP 2490 Internship in Supervising	2
CNSP 2500 Construction Superintendent 1: Project Management for Subcontractors <b>OR</b>	
CNSP 2501 Capstone 2: Project Management for General Contractors	3
<b>Subtotal</b>	<b>32</b>
<b>Dept. of Labor approved Building Trades apprenticeship program</b>	<b>20</b>
<b>General Education Requirements</b> (Select at least 20 credits of General Education according to the requirements listed below)	<b>20</b>
<b>Total Program Credits</b>	<b>72</b>

### AAS Degree General Education Requirements\*

20 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

#### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
SPCH XXXX – 3 cr (Goal 1 only)

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.

## Electrical Maintenance

Electrical Maintenance Certificate. . . . . 16 Credits

### Program Overview

This program helps current employees update their classification from general maintenance to electrical maintenance. Graduates are able to increase the range of services they provide 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
ELTN 1111 Electrical Maintenance 1	4
ELTN 1112 Electrical Maintenance 2	4
ELTN 1113 Electrical Maintenance 3	4
ELTN 1114 Electrical Maintenance 4	4
<b>Total Program Credits</b>	<b>16</b>

# Electrical Technology

Electrical Technology AAS . . . . . 72 Credits  
 Electrical Technology Diploma . . . . . 67 Credits

## Program Overview

An 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.

The Electrical Technology diploma and AAS degree 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 Electric 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.

# Electrical Technology AAS Degree

## Program Requirements

Course		Cr
ELTN 1410	National Electrical Code 1 and Trade Calculations	4
ELTN 1420	Direct Current Circuit Analysis	4
ELTN 1430	Alternating Current Circuit Analysis	4
ELTN 1440	Single-Phase Motors and Generators	4
ELTN 1510	Three-Phase Systems Motors and Generators	4
ELTN 1520	Introduction to Electronics and Test Equipment	4
ELTN 1530	Intermediate Electronics and PLC's	4
ELTN 1540	Low Voltage Systems and Job Site Safety	4
ELTN 2410	Distribution Power and Specialty Transformers	4
ELTN 2420	Motor Controls	4
ELTN 2430	Residential Wiring and Blueprint Reading	4
ELTN 2440	Heating and Cooling System Controls	4
ELTN 2510	Wiring Methods and Systems	4
ELTN 2520	Commercial Wiring Methods	4
	<b>Subtotal</b>	<b>56</b>
	<b>General Education Requirements</b>	<b>16</b>
	(Select at least 16 credits of General Education according to the Requirements listed below)	
	<b>Total Program Credits</b>	<b>72</b>

## AAS Degree General Education Requirements\*

**16 Credits**

*Students are required to complete ENGL 1711 and a Speech course from Goal 1. . . . . 7*

### Goal 1: Communication

ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX – 3 cr (Goal 1 only)

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

### Goal 3: Natural Sciences

PHYS 1720 Principles of Physics 1 OR

### 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

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

## Electrical Technology Diploma

### Program Requirements

Course	Cr
ELTN 1410 National Electrical Code 1 and Trade Calculations	4
ELTN 1420 Direct Current Circuit Analysis	4
ELTN 1430 Alternating Current Circuit Analysis	4
ELTN 1440 Single-Phase Motors and Generators	4
ELTN 1510 Three-Phase Systems Motors and Generators	4
ELTN 1520 Introduction to Electronics and Test Equipment	4
ELTN 1530 Intermediate Electronics and PLC's	4
ELTN 1540 Low Voltage Systems and Job Site Safety	4
ELTN 2410 Distribution Power and Specialty Transformers	4
ELTN 2420 Motor Controls	4
ELTN 2430 Residential Wiring and Blueprint Reading	4
ELTN 2440 Heating and Cooling System Controls	4
ELTN 2510 Wiring Methods and Systems	4
ELTN 2520 Commercial Wiring Methods	4
ELTN 2530 Industrial Wiring Methods and Service Entrance	4
ELTN 2540 National Electrical Code 2	4
<b>Subtotal</b>	<b>64</b>
<b>General Education Requirements</b>	<b>3</b>
<b>Total Program Credits</b>	<b>67</b>

## Floor Covering

Floor Covering Certificate . . . . . 26 Credits

### Program Overview

This program is supported by each member of the Carpet, Linoleum and Resilient Tile Layers Local #596 through hourly contributions. Each apprentice is indentured to the Twin City Floorcoverers Joint Apprenticeship and Training Committee. They, in turn, entrust Saint Paul College with 576 classroom training hours over four years. Students in this program must be members of the Carpet, Linoleum and Resilient Tile Layers Local #596.

Note: The Floor Covering Apprenticeship Certificate is offered through Saint Paul College. Admission to the Floor Covering Apprenticeship program is required for enrollment.

### Career Opportunities

The need for floor covering has increased because of a need for qualified journeypersons and a massive expansion of the job market.

The need for new apprentices and journeypersons in this occupation will double in the Metropolitan area of the Twin Cities in the near future.

For more information go to: <http://www.tcinstall.org>

## Floor Covering Certificate

### Apprenticeship Program Requirements

Course	Cr
FLRC 1400 Introduction to Floor Covering	2
FLRC 1410 Floor Covering Trade Math	1
FLRC 1421 Carpet Installation and Safety 1	2
FLRC 1431 Vinyl Installation and Safety 1	2
FLRC 1440 Floor Covering Blueprint Reading	1
FLRC 1510 Floor Covering Customer Relations	1
FLRC 1522 Carpet Installation and Safety 2	3
FLRC 1532 Vinyl Installation and Safety 2	3
FLRC 2410 Introduction to Laminates and Hardwood Floors	3
FLRC 2420 Introduction to Power Tool Safety	2
FLRC 2430 Installation Specialties and Safety	3
FLRC 2510 Advanced Floor Covering	3
<b>Total Program Credits</b>	<b>26</b>

Must be employed in the field before enrollment and registered as an apprentice in the floor covering trade with the Minnesota Department of Labor and Industry, Division of Apprenticeship.

For further information contact:  
 Ruben Stewart, Coordinator  
 Floor Coverers Training Center  
 680 Olive Street  
 Saint Paul, MN 55130

## Ironworker

Ironworker Certificate . . . . . 25 Credits

### Program Overview

This is a three year/6000 hour program of on-the-job training and approximately 204 of related classroom and hands-on shop training per year. These classes are held two nights a week with some Saturday training each semester.

Classes are conducted from August through May coinciding with the sixteen week college semester. Accepted apprentices are responsible for their tuition payment for all required training classes. Textbooks are provided by the Joint Apprenticeship Committee at no cost to the apprentice.

Note: The Ironworker Apprenticeship Certificate is offered through Saint Paul College. Admission to the Ironworker Apprenticeship program is required for enrollment.

### Career Opportunities

Employment of structural and reinforcing iron workers is expected to grow as fast as the average for all occupations through the year 2012, largely on the basis of continued growth in industrial, commercial and highway bridge construction. In addition to new jobs

that arise, other job openings will result from the need to replace experienced Ironworkers who retire or leave the trade.

The number of jobs fluctuated year to year with economic conditions and the level of construction activity. During economic downturns, ironworkers can experience high rates of unemployment. Similarly job opportunities for ironworkers may vary widely by geographic area. Job openings for ironworkers usually are more abundant during the spring and summer months, when the level of construction activity increases.

Ironworkers who excel at their craft are many times employed as superintendents, general foreman, foreman and lead men.

For more information go to:  
<http://www.ironworkers.org>

## Ironworker Certificate

### Apprenticeship Program Requirements

Course	Cr
IRON 2611 Ironwork Shop 1	2
IRON 2612 Ironwork Shop 2	2
IRON 2613 Ironwork Reinforcing	2
IRON 2614 Ironwork Structural and Rigging	2
IRON 2620 Ironworkers Safety Education	1
IRON 2623 Ironwork Post Tension Bridges and Tower Cranes	2
IRON 2624 Ironwork Ornamental and Basic Cranes	2
IRON 2631 Ironwork Layout	2
IRON 2632 Ironwork Blueprint Reading	2
IRON 2635 Ironwork Shop 3A	2
RWLD 2641 Ironwork Welding 1	2
RWLD 2642 Ironwork Welding 2	2
RWLD 2643 Ironwork Welding 3	2
<b>Total Program Credits</b>	<b>25</b>

- Must not be less than 18 years of age.
- Must have a high school diploma or GED.
- Must be a U.S. citizen or in the process of naturalization.
- Must possess sufficient physical fitness to perform the duties of the trade.
- Must successfully complete the required assessment testing.

Those applicants meeting the above requirements will be interviewed and rated by a joint labor and management committee.

For further information contact:  
 Larry Gilbertson, 651.489.3829  
 Iron Workers Local #512

## Pipefitting

Pipefitting Construction Certificate . . . . .	20 Credits
Pipefitting Diploma . . . . .	40 Credits
Pipefitting Apprenticeship Building Trades Diploma . . . . .	40 Credits
Pipefitting Apprenticeship Service Diploma . . . . .	40 Credits

### Program Overview

The Pipefitting Programs train Pipefitters for construction and service operations such as refineries gasification plants, other commercial facilities.

Note: The Pipefitting Apprenticeship Certificate, Diploma, Building Trades Diploma and Service Diploma are restricted enrollment joint programs offered through the St Paul Pipefitters Local 455 and Saint Paul College. Admission to the Pipefitters Apprenticeship program is required for enrollment in these diplomas. Contact Bill Lombard at 651.247.9920 for application information.

### 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.

## 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
<b>Total Program Credits</b>	<b>20</b>

## 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 1521 Basic Air Conditioning and Refrigeration	5
PIPE 1531 Pipe Welding 2	2
PIPE 1540 Electric Controls	3
PIPE 1550 Basic Gas	3
<b>Total Program Credits</b>	<b>40</b>

## Pipefitting Apprenticeship Building Trades Diploma

### Program Requirements

Course	Cr
PIPE 2614 Boiler Systems	2
PIPE 2622 Rigging, Industrial Safety and OSHA	2
PIPE 2625 Ammonia/Steam/Hot Water Systems	2
PIPE 2631 Industrial Pneumatics	2
PIPE 2632 Commercial Refrigeration	2
PIPE 2635 Apprenticeship Pipe Science	2
PIPE 2641 Supervisory Training/Public Relations	2
PIPE 2642 Piping Design	2
PIPE 2651 Refrigeration Code	1
PIPE 2652 Oil Code	1
PIPE 2653 Gas Code	1
PIPE 2654 Hot Water Code	1
PIPE 2655 Ammonia Code	2
PIPE 2656 High Pressure Steam Code	2
RWLD 2621 Apprenticeship Pipe Welding 1	2
RWLD 2622 Apprenticeship Pipe Welding 2	2
RWLD 2623 Apprenticeship Pipe Welding 3	2
RWLD 2624 Apprenticeship Pipe Welding 4	2
RWLD 2660 Apprenticeship Pipe Welding 1 – Advanced	2
RWLD 2661 Apprenticeship Pipe Welding 2 – Advanced	2
RWLD 2662 Apprenticeship Pipe Welding 3 – Advanced	2
RWLD 2663 Apprenticeship Pipe Welding 4 – Advanced	2
<b>Total Program Requirements</b>	<b>40</b>

## Pipefitting Apprenticeship Service Diploma

### Program Requirements

Course	Cr
PIPE 2611 Gas and Gas Controls	2
PIPE 2614 Boiler Systems	2
PIPE 2615 Pipe Layout and Installation	2
PIPE 2622 Rigging, Industrial Safety and OSHA	2
PIPE 2623 Apprenticeship Refrigeration & Air Conditioning	2
PIPE 2626 Basic Service Applications	2
PIPE 2627 Basic Electricity	2
PIPE 2628 Commercial Pneumatics	2
PIPE 2632 Commercial Refrigeration	2
PIPE 2636 Electrical Controls and Diagrams	2
PIPE 2638 Computer Controls	2
PIPE 2642 Piping Design	2
PIPE 2643 Test and Balance	2
PIPE 2644 Oil Burners and Controls	2
PIPE 2645 Direct Digital Controls	2
PIPE 2651 Refrigeration Code	1
PIPE 2652 Oil Code	1
PIPE 2653 Gas Code	1
PIPE 2654 Hot Water Code	1
PIPE 2655 Ammonia Code	2
PIPE 2656 High Pressure Steam Code	2
PIPE 2657 Advanced Boiler Systems	2
<b>Total Program Requirements</b>	<b>40</b>

## Plumbing

Plumbing Diploma . . . . . 44 Credits

### Program Overview

The Plumbing program trains apprentices in commercial, residential and industrial plumbing.

Note: The Plumbing Technology Diploma program is a restricted enrollment joint program offered through the Plumbers & Gasfitters Local 34 and Saint Paul College. Admission to the Plumbing Apprenticeship program is required for enrollment in this diploma. Contact Rick Gale at 651.846.1641 or 651.846.1389 for application information.

### Program Outcomes

1. Graduates will demonstrate safe and proper use of tools used in the plumbing field.
2. Graduates will have knowledge and skills to install piping in commercial, residential and industrial buildings.
3. Graduates will demonstrate knowledge in blueprint reading.

4. Graduates will demonstrate knowledge in code and proper installation practices.
5. Graduates will demonstrate science and math skills needed in the plumbing field.

## Plumbing Diploma

### Program Requirements

Course		Cr
PLMB 2610	PreApprentice Plumbing	2
PLMB 2612	Job Safety & Health	2
PLMB 2614	Applied Math for Plumbing	4
PLMB 2616	Plumbing Welding	4
PLMB 2618	Basic Drawing	4
PLMB 2621	Plumbing 1	4
PLMB 2622	Plumbing 2	4
PLMB 2624	Plumbing 4 Commercial & Res. Service	4
PLMB 2640	Advanced Plan Reading & Heavy Rigging	4
PLMB 2623	Plumbing 3 Gas Installations & Gas Controls <b>OR</b>	
PLMB 2650	Industrial Plumbing	4
PLMB 2631	Plumbing Code 1	2
PLMB 2632	Plumbing Code 2	2
PLMB 2633	Plumbing Code 3	2
PLMB 2634	Plumbing Code 4	2
	<b>Total Program Credits</b>	<b>44</b>

## 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. 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
COMM1510	Customer & Occupational Relations	3
SMET 1410	Sheet Metal Fitting Layout & Design	4
SMET 1415	OSHA 30 HR Training	2
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
	<b>Total Program Credits</b>	<b>40</b>

## 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 rigorous 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
TRKM 1400	Introduction and Safety	1
TRKM 1445	Truck Welding 1	2
TRKM 1455	Truck Welding 2	2
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
	<b>Subtotal</b>	<b>64</b>
	<b>General Education Requirement</b>	<b>3</b>
	<b>Total Program Credits</b>	<b>67</b>

## Welding Technology

Welding Technology AAS . . . . .	72 Credits
Welding Technology Diploma . . . . .	67 Credits
Welding Technology Certificate . . . . .	32 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, 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, operators, NC/CNC plasma cutting operators and robotic welding operators in structural and nonstructural settings. Welding/fabricating is widely used in the aircraft, automobile, trucking, shipbuilding, pipefitting, plumbing, sheetmetal, ironworking and other trades that use metals. Skilled Welders may 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 various 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 Technology AAS

### Program Requirements

Course		Cr
WLDT 1410	Oxy-Acetylene Welding, Cutting & Brazing, Carbon Arc & Plasma	4
WLDT 1420	Intro to SMAW, Metallurgy & Welding Theory E6013 & E6010	4
WLDT 1430	Intro to Blueprint & Measuring Devices	4
WLDT 1440	Intro to Welding Certification & SMAW E7018	4
WLDT 1510	GMAW, Short Arc	4
WLDT 1520	Intro to GTAW – Mild Steel & Stainless	4
WLDT 1530	GMAW Spray & Pulse & Welding Certification	4
WLDT 1540	GTAW Blueprint Symbols, Weld Inspection & Welder Certification	4
WLDT 2430	Areas & Volumes	4
WLDT 2440	Grinding & Finishing	4
WLDT 2510	GTAW Aluminum & Welder Certification	4
WLDT 2520	Radan Drafting	2
WLDT 2530	Layout and Fabrication Practices	2
WLDT 2540	Shop Hand & Power Equipment	4
WLDT 2550	CNC Shop Equipment & Robotics	4
	<b>Subtotal</b>	<b>56</b>
	<b>General Education Requirement</b>	<b>16</b>
	<b>Total Program Credits</b>	<b>72</b>

### AAS Degree General Education Requirements\* 16 Credits

Students are required to complete ENGL 1711 and a Speech course from Goal 1 . . . . . 7

**Goal 1: Communication**  
 ENGL 1711 Composition 1 – 4 cr  
 SPCH XXXX – 3 cr (Goal 1 only)

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

**Goal 3: Natural Sciences**  
 PHYS 1720 Principles of Physics 1 OR

**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**

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

## Welding Technology Diploma

### Program Requirements

Course		Cr
WLDT 1410	Oxy-Acetylene Welding, Cutting & Brazing, Carbon Arc & Plasma	4
WLDT 1420	Intro to SMAW, Metallurgy & Welding Theory E6013 & E6010	4
WLDT 1430	Intro to Blueprint & Measuring Devices	4
WLDT 1440	Intro to Welding Certification & SMAW E7018	4
WLDT 1510	GMAW, Short Arc	4
WLDT 1520	Intro to GTAW – Mild Steel & Stainless	4
WLDT 1530	GMAW Spray & Pulse & Welding Certification	4
WLDT 1540	GTAW Blueprint Symbols, Weld Inspection & Welder Certification	4
WLDT 2410	GMAW Aluminum & Stainless Steel	4
WLDT 2420	GMAW Core Wires & Welder Certification	4
WLDT 2430	Areas & Volumes	4
WLDT 2440	Grinding & Finishing	4
WLDT 2510	GTAW Aluminum & Welder Certification	4
WLDT 2520	Radan Drafting	2
WLDT 2530	Layout and Fabrication Practices	2
WLDT 2540	Shop Hand & Power Equipment	4
WLDT 2550	CNC Shop Equipment & Robotics	4
	<b>Subtotal</b>	<b>64</b>
	<b>General Education Requirement</b>	<b>3</b>
	<b>Total Program Credits</b>	<b>67</b>

## Welding Technology Certificate

### Program Requirements

Course		Cr
WLDT 1410	Oxy-Acetylene Welding, Cutting & Brazing, Carbon Arc & Plasma	4
WLDT 1420	Intro to SMAW, Metallurgy & Welding Theory E6013 & E6010	4
WLDT 1430	Intro to Blueprint & Measuring Devices	4
WLDT 1440	Intro to Welding Certification & SMAW E7018	4
WLDT 1510	GMAW, Short Arc	4
WLDT 1520	Intro to GTAW – Mild Steel & Stainless	4
WLDT 1530	GMAW Spray & Pulse & Welding Certification	4
WLDT 1540	GTAW Blueprint Symbols, Weld Inspection & Welder Certification	4
	<b>Total Program Credits</b>	<b>32</b>



# Course Descriptions

Course descriptions are alphabetized by program area.

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Course Descriptions are subject to change.

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The most current course descriptions are available online at:  
[www.saintpaul.edu/CourseSchedule](http://www.saintpaul.edu/CourseSchedule)

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# 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. Minnesota Transfer Goals are indicated by (MnTC: Goal(s) "goal number").

## Accounting

### ACCT 1411 Principles of Accounting 1

Introduces students to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include transaction analysis, double-entry accounting, internal controls, cash transactions, purchases and payables cycle, sales and receivables cycle, specialized journals, payroll processes, inventory valuations, year-end procedures and financial statement preparation. Examples are drawn from service and merchandising organizations. 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. Additional topics include long term liabilities, investments, managerial accounting concepts and financial statement analysis. Emphasis will be placed on the uses of accounting information in decision-making by internal and external users. (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

Designed to combine the theory of financial accounting principles with accounting software applications. The course will cover the basic design of accounting software and students will develop an analytical understanding of its properties. Special emphasis will be placed on applying the theory of accounting to the practice of using an accounting software package. (Prerequisite(s): ACCT 1412) 4C/4/0/0

### ACCT 2411 Intermediate Accounting

Intermediate Accounting 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 2420 Managerial Accounting

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 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 Financial Modeling for Spreadsheets

Designed to unify financial accounting theory with financial functions and formulas. This course covers elements of financial modeling with the time value of money. Present value and future value concepts are defined and utilized in this course. (Prerequisite(s): ACCT 1411) 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

## 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. Use of 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. (Prerequisite(s): ASLS 1414 with a grade of “C” or better) 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 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 7) 3C/3/0/0

### **ASLS 1443 ASL Fingerspelling and Numbers**

This course introduces the students to the fundamentals of fingerspelling/lexicalized fingerspelling and the complex rules & patterns of ASL numbers systems. This course develops expressive and receptive fingerspelling and number skills. Receptive skills focus on whole-word recognition, distinction among different number systems, phrase recognition, and identifying fingerspelled words and numbers in context. Expressive skills focus on the development of speed, clarity, and fluency. (Prerequisite(s): ASLS 1414 American Sign Language 4 with a grade of “C” or better.) 3C/3/0/0

### **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 students’ 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 are 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, anthropological methods and theories, and the unity and diversity of the human species. Culture is the means by which human beings adapt to their environment, structure their societies, and give meaning to life. The course surveys the similarities and differences of the complex whole of human culture, including: subsistence strategies; economics; marriage, family and kinship; gender; political organization; inequality; religion; colonialism; and globalization. There is a focus on current issues and problems, and their relationship to societal and global matters. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 7) 4C/4/0/0

### **ANTH 1720 Introduction to Physical Anthropology**

This course examines human biological evolution and variation from the perspective of morphological and cultural adaptation. Discussion addresses the basis of human biology, including genetics, physiology, population dynamics, and adaptive mechanisms. Primates and human ancestors are explored as a comparative model of contemporary human behavior and social organization. The frameworks and arguments of fossil and archaeological evidence are investigated. Modern human biological diversity and adaptations are analyzed, with attention to disease environments and misconceptions of “race.” (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goal 5) 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 by combining the technical and conceptual issues into a final photographic portfolio 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 developed in ARTS 1710. Fundamentals of Photography 1. We continue to explore composition, lighting, visual design, exposure and camera fundamentals. Students are introduced to digital photography to further enhance the capability of personal expression available in the photographic medium. The class explores scanning, digital SLR cameras, creating contact sheets, managing digital work flow and presentation. Students develop the skills necessary to produce a high-quality photographic portfolio. (Prerequisite(s): ARTS 1710 with a grade of “C” or better) (MnTC: Goal 6) 3C/2/1/0

**ARTS 1712 Advanced Photography**

Students in Advanced Photography participate in a service learning project and will continue to explore composition, exposure, camera work and advanced digital techniques to 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 photographic techniques, and produce a portfolio of high-quality black and white or color photographs. (Prerequisite(s): ARTS 1710 and ARTS 1711 with a grade of “C” or better) (MnTC: Goal 6) 3C/3/0/0

**ARTS 1715 Black and White Photography**

This course is an introduction to the techniques used in the darkroom for black and white photography. I will introduce the film SLR camera and compliment that knowledge with additional techniques for self-expression in the darkroom. This course covers technical areas including camera use, metering, aperture, shutter speed, film processing, print processing and presentation of photographs. We will explore creative uses of photography to depict meaning, light and shadow, elements of time, motion, space, composition, portraiture, personal exploration, and metaphor. **The first class will be at SPC but subsequent classes will be held at the Center for Media Arts (2400 University Ave West, Suite 100), NOT at Saint Paul College.** (MnTC: Goal 6) 3C/3/0/0

**ARTS 1720 Art Appreciation**

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 and architecture from around the world, many of which will already be familiar to students, will be viewed, discussed and analyzed in class. Students will also learn about the materials and processes of art making. We will then go out and take a look at the real thing by visiting the Minneapolis Institute of Arts and the Walker Art Center. (MnTC: Goal 6 & 8) 3C/3/0/0

**ARTS 1722 American Animation**

This course looks at animation as an art form and cultural product. We will consider animation within the contexts of American popular culture, media history, and socio-political history. We will explore technical and aesthetic advancements from the early animation devices of the nineteenth century to the current and emerging digital technologies of today. Our studies will take us through the classic cartoons of Winsor McCay, Max Fleischer, The Walt Disney Company, and Warner Bros. to the latest creations of Pixar Studios and DreamWorks. (MnTC: Goals 6 & 7) 3C/3/0/0

**ARTS 1724 The Design of Everyday Life**

Design is a powerful cultural force that surrounds us wherever we go. This course provides students with the basic historical and analytical tools to understand the impact of design on our day-to-day lives, objects, communication materials, and environments. Lessons will cover the main movements, trends and issues in design, from the end of the nineteenth century through today, with particular emphasis on consumer cultures and the interconnections between design and technology. Visual examples will range from furniture to advertisements, industrial design to digital media. (MnTC: Goals 6 & 7) 3C/3/0/0

**ARTS 1726 Art in the Cities**

This course takes an experiential approach to learning about the visual arts. Through visits to museums, galleries, studios, and historic sites, students will become familiar with some of the cultural resources available in Minneapolis and Saint Paul. We will study art representing various media, artistic philosophies, historical contexts, and the multiculturalism of the Twin Cities. Weekly readings, papers, and a final project emphasize the development of critical thinking, visual analysis, and writing skills. Students will be responsible for their own transportation. (MnTC: Goals 6 & 7) 3C/3/0/0

**ARTS 1730 Drawing 1**

This course will focus on techniques and strategies for improving observational drawing abilities. Through hands-on drawing exercises, students will learn to depict the world around them and the human form with greater accuracy. (MnTC: Goal 6) 3C/2/1/0

**ARTS 1731 Drawing 2**

This course continues the development of skills and techniques learned in Drawing 1. This 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. Assignments will be geared towards improving one’s ability to paint from direct observation,

depicting the natural world and the human form with greater accuracy, and integrating “color theory” into oil paintings. (MnTC: Goal 6) 3C/3/0/0

#### **ARTS 1742 Intermediate Painting**

This course will incorporate and further develop skills and techniques learned in Introduction to Painting, but will be more independent in nature. Each student will write a proposal for a cohesive body of work to be completed over the course of the semester, and will work towards developing a personal “style” of painting. Through a series of in-class group critiques, students will learn to analyze and critique works of art. (Prerequisite(s): ARTS 1740 Introduction to Painting with a grade of “C” or better) (MnTC: Goal 6) 3C/3/0/0

#### **ARTS 1744 Introduction to Watercolor Painting**

This course will introduce students to the practice of watercolor painting. Students will become familiar with the materials and terminology of the medium. They will learn to synthesize a variety of painting techniques into watercolor paintings of varying genres and styles. Students will develop an understanding of color theory, as it applies to watercolor painting, and will come to understand historical and contemporary issues pertaining to the medium. (MnTC: Goal 6) 3C/3/0/0

#### **ARTS 1750 Introduction to Ceramics**

This hands-on studio arts course will introduce students to the fundamentals of Ceramic Art. The primary emphasis will be the creation of functional ceramic pottery. Students will learn to make hand-built pottery and learn to “throw” pots on the pottery wheel. In addition to this, students will learn about trimming, glazing, kiln firing, and a variety of decorative techniques. (MnTC: Goal 6) 3C/3/0/0

#### **ARTS 1752 Intermediate Ceramics**

This hands-on studio arts course will continue to introduce students to the fundamentals of Ceramic Art. The course will also introduce contemporary practices in ceramic arts and investigate sculptural aspects of the medium. Half of the semester will include advanced wheel techniques and a continued concentration on throwing functional pots. In addition to this, students will continue learning about trimming, glazing, kiln firing, and become more proficient in decorative techniques. (Prerequisite(s): ARTS 1750 Introduction to Ceramics with a grade of “C” or better) (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 Art in the Americas**

This course is an introduction to the artistic productions of the United States, Central America, and South America. Art in the Americas is united by common historical events. We will explore patterns of cultural interchange from the Pre-Columbian period to the present with particular emphasis on

colonialism, revolution, and the search for national identities. We will also examine the impact of current hemispheric politics on American art. (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 with other visual art forms. 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

#### **ARTS 1795 Special Topics in Art**

This course provides learning experiences that meet the needs of students and pre-major course requirements in art. (MnTC: Goal 6) 3C/3/0/0

#### **ARTS 2710 Advanced Studio Arts**

In the Advanced Studio Arts course students will build upon what they learned in Drawing 1, Introduction to Painting, or Fundamentals of Photography courses. The course will be independent in nature with students focused on developing their own personal artistic “style” in either drawing, painting or photography. Students will propose an idea for a body of work and will spend the semester creating a cohesive portfolio of images and writing an artist’s statement. The semester will culminate with a public exhibition of student work. (MnTC: Goal 6) Variable 3-4 credits

#### **ARTS 2754 Advanced Ceramics**

This hands-on studio arts course will build on the proficiency that students have achieved in Introductory and Intermediate Ceramics. The Advanced Ceramics course will require a familiarity with the wheel and hand-building techniques with an emphasis placed on a semester-long ceramics project resulting in a sculptural, conceptual, or functional body of ceramic art work. The course will also expand on contemporary practices in ceramic arts and further investigate sculptural aspects of the medium. Students will become familiar with local ceramics artists and the greater Twin Cities ceramics community. (Prerequisite(s): ARTS 1752 Intermediate Ceramics with a grade of “C” or better) (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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1410, 1420, 1430, 1440, 1450) 3C/1/2/0

#### **ABDY 1410 Auto Body Sheet Metal Repair**

Covers basic sheet metal repair on automobiles, and tools and equipment used in the repair process. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1400, 1420, 1430, 1440, 1450) 3C/1/2/0

#### **ABDY 1420 Auto Body Repair Techniques**

Covers the use of basic hand and power tools and preparation of an auto before painting. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1400, 1410, 1430, 1440, 1450) 3C/1/2/0

**ABDY 1430 Introduction to Paint Prep**

Focuses on refinishing safety, preparation, tools and equipment used in the application of materials. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1400, 1410, 1420, 1440, 1450) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1400, 1410, 1420, 1430, 1450) 2C/1/1/0

**ABDY 1450 Collision Repair, Estimating & Shop Management**

The focus of this course will be identification and calculation of vehicle damage from a collision. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1400, 1410, 1420, 1430, 1440) 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 ABDY 1550 General Auto Body Detailing. (Prerequisite(s): Enrollment in Auto Body Program) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1520, 1530, 1540, 1550) 3C/1/2/0

**ABDY 1520 Paint & Color Matching Techniques**

Emphasizes overall refinishing, including color matching and all types of paint problems. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1510, 1530, 1540, 1550) 4C/2/2/0

**ABDY 1530 Paint Finish & Detailing**

Covers automotive finishes and how to detail them. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1510, 1520, 1540, 1550) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1510, 1520, 1530, 1550) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1510, 1520, 1530, 1540) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1570, 1581, 1582) 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. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1560, 1581, 1582) 3C/1/2/0

**ABDY 1581 Welding—Auto Body 1**

Covers welding equipment used in auto body repair and its safe and correct use. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1560, 1570, 1582) 2C/1/1/0

**ABDY 1582 Welding—Auto Body 2**

Emphasizes the types of welding used on automobiles and basic welding joints. (Prerequisite(s): Enrollment in Auto Body Program; Co-Requisite(s): ABDY 1560, 1570, 1581) 3C/1/2/0

## ■ Auto Service

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**AUTO 1410 Trade Knowledge**

Covers the examination and use of safety equipment in an automotive shop. Communication skills, 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/1/2/0

**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/1/2/0

**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 1410) 4C/1/3/0

**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/1/4/0

**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/1/2/0

**AUTO 1522 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) 4C/2/2/0

**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/1/2/0

**AUTO 1540 Basic Engine Management**

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, ignition wire and air, fuel and emission filters. (Prerequisite(s): AUTO 1530) 3C/1/2/0

### **AUTO 1550 Heating & Air Conditioning**

Focuses on the principles of heating and air conditioning. Topics include A/C types, the diagnoses of malfunctions and tests/repairs. Lab work is done 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/1/3/0

### **AUTO 1570 Basic Auto Welding**

Students will learn basic welding and cutting skills applicable for automotive technicians. Students will learn set up and use of Oxy Fuel Torch Cutting equipment. Students will also learn to set up, GMAW (Mig) welding equipment and successfully weld various joints in multiple positions. Students will also learn how to operate basic metal working tools and equipment such as grinders, band saws and shears. Shop safety is incorporated into all aspects of the course. 2C/0/2/0

### **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/1/2/0

### **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/1/2/0

### **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/1/3/0

### **AUTO 2440 Engine Installation**

Covers the removal and installation of complete engine assemblies, transfer of parts and removal and installation of accessories. 2C/1/1/0

### **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/1/1/0

### **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/1/4/0

### **AUTO 2520 Engine Driveability**

Covers application of knowledge and skills gained when studying engine, fuel, ignition and computer systems. (Prerequisite(s): AUTO 1410 and AUTO 1540) 3/1/2/0

### **AUTO 2530 Automatic Transmission Theory**

Covers the basics of torque converters, planetary gear sets, clutches, bands and hydraulics. 2C/1/1/0

### **AUTO 2542 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) 4C/2/2/0

### **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/1/1/0

### **AUTO 2570 Advanced Auto Welding**

A continuation of Basic Auto Welding 1570. Students will learn to set up GTAW (Tig) welding equipment and will make welds on various materials such as Steel, Stainless steel and aluminum in multiple positions. Students will operate basic metal working tools and equipment such as grinders, band saws, and shears. Welding shop safety is emphasized. (Prerequisite(s): AUTO 1570) 2C/0/2/0

## **■ Biochemistry – Coming Soon**

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## **■ Biology**

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### **BIOL 1471 Biomedical Terminology**

This online course covers how bio/medical terms are constructed from Greek and Latin word elements including roots, combining forms, prefixes, and suffixes. Definitions, spelling, pronunciation, and applications of these terms will be stressed. Diseases and treatments specific to the body's organ systems will also be covered. This course is useful for anyone who desires a better understanding of medical language. 2C/2/0/0

### **BIOL 1720 Environmental Science: Current Issues**

This course emphasizes the impact of humans on the environment, including the stresses placed on the biosphere by the use of natural resources, energy development, chemical use, pollution, and waste disposal. Additional topics are covered as time and interest permit. Classes will include visiting speakers, field trips, and student reports. (MnTC: Goals 3 & 10) 3C/3/0/0

### **BIOL 1725 Environmental Science**

This course covers basic scientific and ecological principles, including an understanding of how the earth functions, how humans are affecting the earth, and proposed solutions to many of the environmental problems we face. Specific topics include: basic ecological principles, human population growth, biotechnology, and human impacts on climate, energy resources, and waste management. Students will be required to take positions on environmental issues and alternative future scenarios. In-class activities will include group discussions, presentations by guest speakers, and video and internet-based resources. Two hours of lab per week are required and include group experiments, computer simulations, outdoor lab activities, and field trips. 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. Laboratory activities, including the dissection of a preserved animal and animal organs, are part of the course. This course is intended for all students in the liberal arts & sciences as well as other interested students. This course is required for the MLT Program, but does not fulfill requirements for the LPN or RN Programs. Traditional and web-enhanced sections are available. (MnTC: Goal 3) 3C/2/1/0

**BIOL 1735 Exploring Biology**

This course examines basic principles of chemistry, organization of cells, and properties and functions of biological macromolecules. The production and utilization of biological energy is explored at the cellular level and the similarity found in all organisms is emphasized. Principles of inheritance and cellular reproduction are explored at the molecular and cellular levels. This course also examines plant and animal kingdoms and general principles of ecology. It is intended for non-science majors and fulfills the lab science requirement. Two hours of lab per week are required. (MnTC: Goal 3) 4C/3/1/0

**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. Two hours of lab per week are required and the lab component covers 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 and Physiology 1, BIOL 2750 General Microbiology, and recommended for BIOL 1745 General Biology 2: The Living World. Traditional and web-enhanced sections are available. (Prerequisite(s): READ 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 covers 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. Two hours of lab per week are required and some activities involve the dissection of preserved animals and animal organs. The course is offered during Spring Semester only. (Prerequisite(s): BIOL 1740 General Biology 1: The Living Cell with a grade of "C" or better, or instructor permission) (MnTC: Goal 3) 5C/4/1/0

**BIOL 1760 Nutrition**

This course explores the science of nutrition, including healthy diet fundamentals and the roles of carbohydrates, proteins, fats, and minerals in health and fitness. Topics such as dietary guidelines, risk factors for illnesses linked to nutrition, and how the media influences personal diet choices will be covered. Hunger and the global environment as it relates to nutrition will also be covered. Traditional and online sections are available. (MnTC: Goal 3) 3C/3/0/0

**BIOL 2760 Cell and Molecular Biology**

Pending

**BIOL 1782 Introduction to Forensic Science**

This course provides an introduction to Forensic Science. General biological concepts and their applications to various scientific principles and techniques used in Forensic Biology will be covered. Specific topics include chromatography, hair and fiber analysis, fingerprinting, blood spatter and typing, DNA typing, and forensic entomology. This course is intended for students in liberal arts and sciences, other related science fields, and interested non-science majors and can be used to fulfill the science lab requirement. Two hours of lab per week are

required. Traditional and web-enhanced sections are available. (MnTC: Goal 3) 4C/3/1/0

**BIOL 1785 Biology of Men and Women**

This course is designed to bring into open many issues regarding those aspects of reproductive anatomy and physiology which are of special interest and unique to men and women, especially those relating to sexuality and reproduction. Lecture topics are structured to include lab like activities using models to study and compare male and female reproductive anatomy, fetal development and stages of pregnancy. Lab-like components include a tour of cell division and embryonic development using specimens. Topics which are fact-based, opinion-based and controversial will be open to debates and discussions. Traditional and online sections are available. (MnTC: Goals 3 & 9 ) 3C/3/0/0

**BIOL 2721 Human Anatomy and Physiology 1**

This course covers body organization, tissues, human body systems (integumentary, skeletal, muscular and nervous), and the special senses, integrating both the anatomy and physiology of each organ system. Dysfunctions may be included, but the body in homeostasis is emphasized. Two hours of lab per week are required. Some lab activities involve the dissection of preserved animal organs. Traditional and web-enhanced sections are available. (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 not included in Human Anatomy & Physiology 1: cardiovascular, respiratory, endocrine, lymphatic/immune, digestive, urinary and reproductive systems. The anatomy and physiology of each organ system is integrated. Dysfunctions may be included, but the body in homeostasis is emphasized. Two hours of lab per week are required. 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) Traditional and web-enhanced sections are available. (MnTC: Goal 3) 4C/3/1/0

**BIOL 2750 General Microbiology**

General Microbiology covers 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. Environment and industrial microbiology will also be discussed. Two hours of lab per week are required and sessions will be structured to provide a hands-on introduction to common laboratory techniques related to topics covered in lecture. Safety and infection control will also 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 2770 Biology Internship**

This course provides students with an opportunity to design and carry out a science research project under the supervision of a faculty advisor. The research report will be prepared using literature review, problem identification, procedural documentation, data collection, data analysis, findings, conclusions, and recommendations. Evaluation will be carried out by faculty teams and experts in the field. The course will also provide an opportunity for field study in an approved internship setting. Variable credits 1-4



## Business

### **BUSN 1410 Introduction to Business**

Offers an introduction to the United States business system. Students will explore economic principles, international business, 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 and 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 1441 Consumer Behavior**

This course will explore the behavior of consumers as it relates to products and services. The role of the consumer in the marketplace will be explored including the analysis of needs, motivation, attitudes, perceptions, decisions, and behavior. 3C/3/0/0

### **BUSN 1442 Marketing Research and Analysis**

Marketing Research can be defined as the process of gathering, analyzing and reporting information in order to make marketing decisions. This class will cover various qualitative and quantitative techniques and methods of research. Other topics include statistical analysis, software programs and preparing results and findings reports. 3C/3/0/0

### **BUSN 1444 Advertising and Promotional Strategies**

This course explores the world of advertising and other mass communications practices. It will examine advertising theory, functions and principles. All types of media will be explored, including television, radio, magazine, newspaper, outdoor and the internet. Various careers in advertising will be examined. 3C/3/0/0

### **BUSN 1447 Sales and Sales Management**

In this course we will examine the personal selling process. We will explore the practical and tactical process of how to sell products and services in a complex market. We will also examine sales force training, compensation, territory assignment and quotas. 2C/2/0/0

### **BUSN 1448 Retailing Principles**

An introduction to retailing and retailing practices. Topics include store location, merchandise buying and display, store layout, image and design. 3C/3/0/0

### **BUSN 1480 Career 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

### **BUSN 1482 Business Career 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. This course may include work on portfolios, electronic portfolios, and interviewing skills. 2C/2/0/0

### **BUSN 2410 Critical Thinking for Business Decision Making**

This course will cover theory and application of critical thinking. Students explore the various elements of the critical thinking process and understand the importance of effective critical thinking skills in the 21st century workplace. Emphasis is placed on learning how to use critical thinking to challenge assumptions and expand perceptions about situations, as well as applying improved skills to the day-to-day operations of a business. 2C/2/0/0

### **BUSN 2440 Fundamentals of Nonprofit Management**

This course explains the foundation of the nonprofit sector. Students will be introduced to the fundamentals of effective organization mission and vision statements, strategic planning, operations management, board development and budgeting. Students will gain understanding of different aspects of the nonprofit organization. 3C/3/0/0

### **BUSN 2441 Fundraising Techniques**

Learn the role of the board and staff in fundraising, setting fundraising goals, and the cultivation and recognition of donors. This course also covers other components of fundraising for successful generation of revenue. 1C/1/0/0

### **BUSN 2442 Grant Writing and Research**

Learn the tactics of researching and writing effective proposals. Discover the best ways to develop documentation, write compelling inquiry letters and set goals that can be achieved. 1C/1/0/0

### **BUSN 2443 Dynamics of Board Relations**

Develop a better board of directors or become a better board member. Boards of directors of nonprofits are often unclear about their role and relationship with staff and the executive director. This course defines the role of the board and strengthens the working relationship between staff members and board members. 1C/1/0/0

### **BUSN 2444 Volunteer Program Management**

Volunteers make it happen! Successful management of this important asset is critical to an organization. Learn the basic principles and concepts of professional volunteer management and gain a solid foundation on which to build. 1C/1/0/0

### **BUSN 2445 Legal Environment of Nonprofits**

Gain knowledge of the complexities of nonprofit organizations. Learn about the legal aspects of nonprofit and tax exempt organizations under federal and state law. Areas discussed include incorporation, exemption, reporting requirements and various IRS mandates for 501(c)(3) exemptions. 1C/1/0/0

### **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. Principal 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 a 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 decide which resources are most valuable when starting a new business. 2C/2/0/0

**BUSN 2463 Organizational Leadership and Decision Making**

This course combines theory and practice by encouraging students to learn traditional and contemporary leadership theories and applications. This course includes case studies, exercises, and numerous examples of effective leadership models. Areas covered include the leadership roles of strategy, vision and transformational change; the development of leaders; the leadership responsibilities of creating effective teams, organizations and cultures; the exploration of different leadership styles; and current approaches to leadership theory. 3C/3/0/0

**BUSN 2464 Leading and Coaching Others**

This course focuses on developing skills as a leader and coach. The students will explore a variety of coaching tools, techniques and best practices, from analyzing performance to creating a climate for effective coaching and learning. Some of the coaching and leadership topics include improving skills for developing trust, confidence, and rapport. The course also explores obstacles of coaching and provides tools for overcoming the obstacles. 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 2466 Managing Change and Conflict**

This course helps students to learn and develop the unique set of skills and competencies used to initiate and sustain major organizational change. Students explore techniques for working collaboratively with others to drive organizational culture change. Emphasis is also placed on effectively managing conflict and provides opportunity to develop a list of tools and resources used in conflict management. 2C/2/0/0

**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 2471 Strategic Planning**

Gain an understanding of methods for developing your strategic plan with your volunteer groups and learn about the concepts and formats to make it successful. An organization must demonstrate that it is doing a good job by implementing its mission, involving community, using its resources well and showing how it is advancing the community. 3C/3/0/0

**BUSN 2472 Business Negotiation Skills**

Covers techniques and unique circumstances for the negotiation of prices in 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 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) Variable 1-3 credits

**BUSN 2482 Entrepreneurship Capstone**

Students will complete a business plan. A business plan integrates skills and elements from various disciplines. Because a business plan is a complete and professional document that establishes the viability of your business ideas, students will build both their writing and presentation skills. 3C/3/0/0

## ■ Business Logistics Management

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**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, material 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, materials handling, customer service and their eventual integration into a logistics system. 4C/4/0/0

**BSLM 2450 Purchasing Principles and Applications**

The course covers a broad overview of the objectives of Purchasing; its authority, responsibility, management function and 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 with 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

## ■ Business Technology

#### **BTEC 1400 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

#### **BTEC 1401 Skillbuilding for Keyboarding**

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

#### **BTEC 1410 Advanced Keyboarding Applications**

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

#### **BTEC 1418 Computer Fundamentals**

This course covers introductory information about computer hardware and software, disk maintenance, 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

#### **BTEC 1421 Business Information Applications 1**

This is the first course in a series that teaches students how to use Microsoft Office software applications. Software covered includes Word, Excel, Access, and PowerPoint. By the end of this course, students will be skilled in the basic features of Microsoft Office. Students will create common business documents including letters, reports, tables, newsletters, Excel worksheets, Access databases, and PowerPoint graphic presentations. This course, BTEC 1423 Business Information Applications 2 and BTEC 2506 Business Information Applications 3, prepare the student for the Microsoft Certified Application Specialist certification exams. (Prerequisite(s): BTEC 1418 or knowledge of computers) 3C/0/3/0

#### **BTEC 1423 Business Information Applications 2**

This is the second course in a series that teaches students how to use Microsoft Office software applications. Software used includes Word, Excel, Access, and PowerPoint. By the end of

this course, students will be skilled in the advanced features of Microsoft Office. Students will create advanced business documents including Word form letters, merged documents, and newsletters; Excel financial worksheets, amortization schedules, and data tables; advanced Access queries, multi-table forms, customized reports and switchboards; and advanced PowerPoint presentations. This course, BTEC 1421 Business Information Applications 1 and BTEC 2506 Business Information Applications 3, prepare the student for the Microsoft Certified Application Specialist certification exams. (Prerequisite(s): BTEC 1421) 4C/0/4/0

#### **BTEC 1445 Business Communications**

This course takes a practical and analytical approach to developing written and oral business communication skills. Students learn to analyze the audience and purpose of the communication, research and organize ideas, format and design written documents, and create oral presentations based on the subject matter and content. Students will learn to work cooperatively in groups and meetings. Applying the rules for proper grammar and punctuation will be incorporated throughout all projects. 3C/3/0/0

#### **BTEC 1530 Communication Technology**

This course offers hands-on instruction in current communication technology software. Topics in this class will cover the fundamentals of Microsoft Outlook, Microsoft Publisher, and creating web pages. In Microsoft Outlook, the students will create messages, contact lists, and manage calendars. In Microsoft Publisher, the student will create and edit a publication, design a newsletter, publish a tri-fold brochure, and create an e-mail letter. Students will also learn how to create a simple Web site, add text and links, and create tables. (Prerequisite(s): BTEC 1418 or equivalent) 4C/0/4/0

#### **BTEC 2410 Business 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 pressures, develop interpersonal relationships and become aware of work quality and quantity requirements. 4C/4/0/0

#### **BTEC 2506 Business Information Applications 3**

This is the third course in a sequence that will explore expert level applications using Microsoft Office 2007 software. This course assumes students are familiar with the fundamental and advanced features of Microsoft Word, Excel, Access, and PowerPoint. Students demonstrate proficiency in Microsoft Office 2007 in preparation for the Microsoft Certified Applications Specialist certification. Students create expert level documents, worksheets, databases, and presentations suitable for the business environment, coursework, and personal use. (Prerequisite(s): BTEC 1421 and BTEC 1423) 4C/0/4/0

#### **BTEC 2550 Emerging Business Technologies**

This course explores emerging business technologies and their connection to business processes. The course includes discussions of social, legal, and ethical issues, in the business environment. Students will explore their role and responsibilities to the environment and society, to ensure that productivity and technology are appropriately managed. 4C/0/4/0

**BTEC 2590 Business Technology Internship**

A cooperative work-study program between Saint Paul College Business Technology 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

## ■ Cabinetmaking

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**CABT 1410 Print Reading and Design**

This course will introduce students to residential print reading, building trade drawings, architectural graphics, and symbols used in the trades. Students will also be introduced to AutoCAD (computerized drafting software) where they will learn basic commands needed to design 2D drawings. 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, softwoods and 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 1425 Machining 1**

This course will introduce students to shop safety. The student will study the identification, care and use of hand tools, portable power tools, and machinery. The course offers safety demonstrations on all power equipment and safety tests will be performed on most machines. Basic knowledge of power and hand tools is required. Students will master the machinery through building various projects. 5C/2/3/0

**CABT 1426 Machining 2**

This course will reinforce proper machine operation and safety on woodworking machinery already learned in Machining 1. Advanced woodworking machinery not covered in Machining 1 will be demonstrated, along with safety tests on these machines. Machine maintenance and tooling is covered. A series of projects will give the students hands-on experience. Machining 1 is not a prerequisite for this course. 3C/1/2/0

**CABT 1431 Framed Cabinetry**

This course introduces the student to face frame base and upper cabinetry. Students will learn the design, planning, and construction processes of building face frame cabinets. The student will then apply these techniques by building a project. 5C/2/3/0

**CABT 2410 Laminates and Countertops**

This course introduces students to laminates/veneers, the tools used for laminating, and 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 2441 Frameless Cabinetry**

This course introduces the students to frameless cabinetry which is also known as European cabinetry, or 32mm cabinetry. The course will cover design, layout, and construction of frameless cabinets using boring machines and edgebanders, and the hardware used in frameless cabinetry. 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. 5C/2/3/0

**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 computers, apply tool paths for various operations, and set up a CNC router to perform operations. 4C/2/2/0

**CABT 2550 AutoCad 1 for Cabinetmaking**

This course introduces students to the basic tools of AutoCad. Students will create scaled drawings, modify existing drawings, learn print layouts, apply text and dimension drawings using AutoCad 2007 in a computer lab setting. 3C/2/1/0

**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

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**CARP 1110 Carpentry Remodeling Techniques**

The student will learn the latest procedures and steps in planning, executing and completing remodeling projects around the house. 3C/2/1/0

**CARP 1112 Building Walls/Hanging Drywall**

This is a beginning wall building class. The student will learn Carpentry jargon, layout and procedures for wall construction and how to cover walls with drywall and finish them for painting. 3C/2/1/0

**CARP 1114 Finish Carpentry Techniques**

The student will learn to finish a remodeling project by installing base trim, ceiling trim, window and door casings. The student will also learn special finish trim techniques. 3C/2/1/0

**CARP 1116 Installing Windows and Doors**

The student will learn how to install various windows and hang interior doors in a home. They will learn to make both plumb, level and square weatherize. 3C/2/1/0

**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/0/5/0

### **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/3/2/0

### **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

## **■ 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. It is now offered as a full Online introductory chemistry course (all lectures and laboratory experiments online; no seat time). (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 1701 Chemical Technology Seminar**

This course introduces students to the field of Chemical Technology and the role of the Chemical Laboratory Technicians. The course includes a description of the program

of study, expectations, and responsibilities. As part of the course, students explore Chemistry Technology job opportunities and visit chemical laboratories. Students will also evaluate their own aptitudes and interests relevant to career opportunities and outline the career pathway to becoming a Chemical Laboratory Technician. 1C/1/0/0

### **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, and 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 are required. High School chemistry is recommended. (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 are required. (Prerequisite(s): CHEM 1711 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

### **CHEM 1760 Chemical Technology Laboratory Skills and Instrumentation**

This course covers basic operating principles of laboratory instrumentation and the techniques and documentation required for troubleshooting analytical instrumentation in an industrial setting. It covers the systematic approach to the diagnosis of instrument failure, repair, maintenance procedures, hands-on practice servicing instruments, and documentation of maintenance and repair of laboratory equipment. (Prerequisite(s): CHEM 1711 with a grade of "C" or better) 3C/3/0/0

### **CHEM 1761 Chemical Technology Lab Safety, Environmental Rules and Regulations**

This course covers policies, procedures, laboratory equipment, personal protective equipment and work practices that protect laboratory personnel in chemical laboratories. Emergency procedures, use of material safety data sheets, chemical hazards, chemical handling, and safe personal work practices are also reviewed. The course presents an overview of federal and state environmental regulations and agency rules that regulate chemical laboratory operations and the storage and disposal of chemicals according to the Environmental Protection Agency. (Prerequisite(s): CHEM 1711 with a grade of "C" or better) 3C/3/0/0

**CHEM 1770 Chemical Technology Laboratory Internship and 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. The research project will be prepared using literature review, problem identification, procedural documentation, data collection, data analysis, findings, conclusions, and recommendations. Evaluation will be carried out by faculty teams and experts in the field. The course will also provide an opportunity for field study in an approved internship setting. (Prerequisite(s): CHEM 1711 with a grade of "C" or better) 3C/3/0/0

**CHEM 2711 Organic Chemistry 1**

This course is an introduction to organic chemistry. Topics include an overview of covalent bonding, acid-base chemistry, and reaction energetics. The course also covers an introduction to organic functional groups, stereochemistry, and substitution reactions. The laboratory activities include an introduction to laboratory techniques used in organic chemistry synthesis, and the use of chromatography and spectroscopy in the analysis of organic compounds. Three hours of lab per week are required. (Prerequisite(s): CHEM 1712 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

**CHEM 2712 Organic Chemistry 2**

This course is a continuation of CHEM 2711 Organic Chemistry 1, and while the focus of CHEM 2711 was in structure, the focus of CHEM 2712 is reactivity. Topics include the reactivity of alkenes, alkynes, alcohols, amines, ketones, aldehydes, carboxylic acids, and their derivatives based on their structures. Reaction types studied include electrophilic aromatic substitution, nucleophilic aromatic substitution, nucleophilic addition and substitution at carbonyl groups, and reactions at the alpha carbon of carbonyl compounds. The course also includes application of organic chemistry related to polymers, natural products, and photochemistry. The laboratory activities cover reactions and the chemical and instructional identification of organic compounds. Three hours of lab per week are required. (Prerequisite(s): CHEM 2711 with a grade of "C" or better) (MnTC: Goal 3) 4C/3/1/0

**CHEM 2790 Cleanroom Laboratory Internship and Advanced Seminar**

Pending

## ■ Child Development

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**CDEV 1200 Introduction to Early Childhood Education**

This course provides an overview of the early childhood field, including philosophies, missions, and regulations. It examines the roles and responsibilities of professionals in a variety of career settings. Examines positive communication and relationships with families 3C/3/0/0

**CDEV 1210 Child Growth and Development**

Examines the major developmental milestones for children, both typical and atypical, from conception through adolescence in the areas of physical, psychosocial, and cognitive development. Emphasizes interactions between maturational processes and environmental factors. While studying developmental theory and investigative research methods, students will observe children and analyze characteristics of development at various stages. 3C/2/1/0

**CDEV 1220 Health, Safety and Nutrition**

An introduction to the regulations, standards, policies, and procedures, prevention techniques, and early childhood curriculum related to health, safety, and nutrition. The key components that ensure physical health, mental health, and safety for both children and staff will be identified, as well as the importance of collaboration with families and health professionals. A focus will be on integrating the concepts into everyday planning and program development. 3C/2/1/0

**CDEV 1230 Guiding Children's Behavior**

Examines positive strategies to guide children's behavior in the early childhood setting. Examines ways to establish supportive relationships with children and guide them, in order to enhance learning, development, and well-being. 3C/3/0/0

**CDEV 1240 Learning Environment and Curriculum**

Presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children. Examines the role of the teacher in providing learning experiences to meet each child's needs, capabilities, and interests, and ways to implement the principles of developmentally appropriate practices. Will provide an overview of content areas including (but not limited to): Language and literacy, social and emotional learning, sensory learning, art and creativity, math and science. 4C/3/1/0

**CDEV 1316 Observation and Assessment**

This course focuses on the appropriate use of assessment and observation strategies to document development, growth, play and learning to join with families and professionals in promoting children's success. Recording strategies, rating systems, multiple assessment tools and portfolios are explored. There will be a focus on increasing objectivity in observing and interpreting children's behavior, observing developmental characteristics and increasing the awareness of normal patterns of behavior. (Prerequisite(s): CDEV 1210 Child Growth and Development and CDEV 1230 Guiding Children's Behaviors) 3C/3/0/0

**CDEV 1910 Practicum 1**

Students demonstrate early childhood teaching competencies under guided supervision to make connections between theory and practice and developing professional behaviors. Students apply comprehensive understanding of children and families; developmentally appropriate, child-centered, play-oriented approaches to teaching and learning, and knowledge of curriculum content areas. They design, implement, and evaluate experiences that promote positive development and learning for all young children. (Prerequisite(s) Completion of all other Diploma level courses and instructor approval) 3C/0/0/3

**CDEV 2320 Children with Differing Abilities**

Examines the child with differing abilities in an early childhood setting. Students will integrate strategies that support diversity and anti-bias perspectives, provide inclusive programs for young children, apply legal and ethical requirements including, but not limited to ADA and IDEA, differentiate between typical and exceptional development, analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders, work collaboratively with community and professional resources, utilize an individual education plan, adapt curriculum to meet the needs of children with developmental differences, cultivate partnerships with families who have children with developmental differences. (Prerequisite(s): Completion of all diploma level coursework or instructor approval) 3C/2/1/0

**CDEV 2520 The 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

**CDEV 2530 Children with Challenging Behaviors**

Helps students understand children's behavior problems and identify intervention strategies to prevent and resolve problem behavior, use behavior modification effectively and design behavior plans. 3C3/0/0

**CDEV 2550 Math, Science and Technology for Young Children**

Provides an overview of cognitive development and math and science learning experiences in home and center-based settings. Students integrate knowledge of child development, learning environments and teaching methods to promote curiosity, attention, perception, memory, problem solving, and logical thinking, etc. 3C/2/1/0

**CDEV 2560 Language & Literature Learning Experiences**

Provides an overview of language learning experiences in early childhood settings and a detailed study of literature/literacy experiences. Students will integrate knowledge of children's language and literacy development, learning environments and teaching strategies to select, plan, present, and evaluate literature experiences to children of different abilities and diverse backgrounds. 3C/2/1/0

**CDEV 2570 Working with Diverse Children and Families**

Examines how to work with many types of families. Investigates the importance of the family/school partnership, study methods of effectively communicating with families, and identify community organizations and networks that support families. Various classroom strategies will be explored emphasizing culturally and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society. 3C/3/0/0

**CDEV 2580 Creative Development & Learning Experiences**

Provides an overview of creative development and artistic/aesthetic learning experiences in home and 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

**CDEV 2590 Social-Emotional Development & Learning Experiences**

Provides an overview of social-emotional learning experiences. Students integrate knowledge of child development, learning environment, and teaching methods to promote emotional development, self-concept, self-esteem, social skills, diversity awareness, and social studies. 3C/3/0/0

**CDEV 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

**CDEV 2599 Practicum 1: Special Settings/American Sign Language**

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): Completion of all CDEV ASL courses and Instructor approval) 3C/0/0/3

**CDEV 2600 Organizational Leadership and Management**

The student will discuss personal and professional reasons for becoming a teacher, ways to advocate in this profession and will develop a plan for continuous education and professional development. The student will join a professional organization and attend a professional conference. Students will improve skills in working with others by learning strategies for team building, coping with stress, and problem-solving. Students will study professional ethics and procedures for evaluating staff. (Prerequisite(s): Completion of all Diploma level courses) 2C/2/0/0

**CDEV 2610 Practicum 2**

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): Successful completion of all required AAS coursework and Instructor approval) 3C/0/0/3

**CDEV 2640 Curriculum Planning**

Provides an advanced level of curriculum planning. Emphasis is on organizing, implementing, and evaluating developmentally appropriate curricula. (Prerequisite(s): Completion of certificate level coursework or instructor approval) 3C/3/0/0

**CDEV 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

**CDEV 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

**CDEV 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

**CDEV 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

## ■ CNC Technology

### **CNCT 1410 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. This course will include additional theory and online assignments. This is a hybrid course. 4C/4/0/0

### **CNCT 1420 Engineering Drawings**

This introductory course covers view orientation, section views, surface finish, dimensioning, part tolerance, and machining symbols. This course will include additional theory and online assignments. This is a hybrid course. 4C/4/0/0

### **CNCT 1430 Materials Processes 1**

This introductory lab covers shop safety, bench work, drill presses, lathe operations, and vertical milling. 4C/1/3/0

### **CNCT 1431 Materials Processes 2**

This course covers intermediate lathe and milling machines. Basic surface grinding will be introduced. Work efficiency and inspection of finished work will be stressed. (Prerequisite(s): CNCT 1430 or concurrent) 4C/1/3/0

### **CNCT 1710 Shop Calculations**

The subject matter of this course 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 trade. 2C/2/0/0

### **CNCT 1720 Geometric Dimensioning**

This course covers the principles, application, and interpretation of geometric dimensioning and tolerance as per ASME-Y14.5M 1994 Standards. (Prerequisite(s): CNCT 1420) 2C/2/0/0

### **CNCT 1730 CNC 1**

This course covers the basic operation and setup skills using G & M code format. (Prerequisite(s): CNCT 1431) 4C/2/2/0

### **CNCT 1731 CNC 2**

This course covers the setup and operation of CNC machine tools. Also includes advanced NC/CNC programming and operation on machining centers. (Prerequisite(s): CNCT 1730 or concurrent) 4C/2/2/0

### **CNCT 1740 Design Principles**

Introduces production machining processes and includes calculations and methods for work holding setups of various piece parts. (Prerequisite(s): CNCT 1420) 4C/4/0/0

### **CNCT 2410 Tool Design**

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. This course will include additional theory and online assignments. This is a hybrid course. (Prerequisite(s): CNCT 1731) 4C/4/0/0

### **CNCT 2420 Mechanical Systems/EDM**

The focus of this web-enhanced course will be on manufacturing design, production processes, and Electrical Discharge Machining. Also included will be production tool design projects, related theory in quality, lean manufacturing, abrasives, mechanical systems, inspection procedures, welding and CNC controls. This is a hybrid course. (Prerequisite(s): CNCT 1731) 4C/4/0/0

### **CNCT 2430 Mold/Plastic Technology**

This is an introductory course on the design and construction principles of basic molds. CNC machines along with manual mills, lathes, surface grinders, jig bores, drill presses and injection molding machines are used in a laboratory setting to produce a plastic injection mold. (Prerequisite(s): CNCT 1731) 4C/1/3/0

### **CNCT 2440 Manufacturing Applications**

Product development fundamentals including design, research, cost estimating and manufacturing of a metal stamped product. This course will also include CNC machining. (Prerequisite(s): CNCT 1731) 4C/1/3/0

### **CNCT 2510 Mechanical Applications**

This course covers advanced tool room machining operations using vertical mills, lathes, surface grinders, as well as part inspection. (Prerequisite(s): CNCT 1431) 4C/2/2/0

### **CNCT 2520 CAD**

This introductory course will use SolidWorks as the CAD software of instruction and application. Basic construction of solid modeling, engineering drawings, and assemblies will be covered. 4C/4/0/0

### **CNCT 2530 CNC Lathe**

This course covers the programming, set-up, and operation CNC turning centers. This course will include additional theory and online assignments. This is a hybrid course. (Prerequisite(s): CNCT 1430, CNCT 1431) 4C/4/0/0

### **CNCT 2540 Computer Aided Manufacturing**

This course covers computer aided manufacturing using Mastercam software. Students will learn to create geometry, toolpaths, and CNC files for a series of projects. The use of PC based CAM software to generate numerical control programs is included. (Prerequisite(s): CNCT 1730, CNCT 1731 or concurrent) 4C/2/2/0

## ■ College & Career Planning Success Strategies

### **CSCR 1401 College Success Strategies-First Year Experience**

This course focuses on skills needed to survive and thrive in the collegiate environment and beyond. Students will develop skills in academic planning; accessing college resources; maintaining physical, mental, and emotional health; personal financial planning; building relationships; and participating in community and college activities via service learning. 1C/1/0/0

### **CSCR 1402 Study Skills for Success Strategies**

This course focuses on the development of effective learning strategies for college success. Students will develop skills on strategies such as time management and organization, note-taking, textbook reading, test taking, critical thinking. Students will also gain an understanding of their personal learning styles and utilize effective study strategies based on their styles. 1C/1/0/0

### **CSCR 1403 Choosing Your Career Path**

This course focuses on the career planning and decision-making process. Students will acquire skills in identifying potential career areas based on personal assessments and in utilizing career decision-making and goal-setting strategies to determine a career choice. Students will utilize various career resources, such as online sites, to assist in the decision-making planning process. 1C/1/0/0



### **CSCR 1404 College and Information Literacy**

This course focuses on developing information and college literacy skills. Students will develop knowledge and skills in accessing, retrieving, appropriately citing, and critically evaluating information in various formats. Students will build skills in basic computer usage, efolio, and online learning. Students will prepare a preliminary research project and presentation. 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. Students will gain knowledge of career resources and the career-planning process. 2C/2/0/0

## ■ Communication

### **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 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. 2C/1/1/0

### **COMM 1510 Customer & Occupational Relations**

The student is introduced to and taught 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 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 majors. 3C/3/0/0

### **CSCI 1403 Operating System Development Platforms**

This course introduces students to the tools and methods available in both open source and proprietary operating systems

for developing both computer programs and web-based software. The course emphasizes both integrated development environments and command line development tools to familiarize students with the basic software development life cycle and the operating system and development tools that are available to support it. Both UNIX based and Microsoft oriented operating systems are introduced and students are expected to be proficient in the use of each of these operating systems as platforms for software development upon completion of this course. 2C/2/0/0

### **CSCI 1410 Computer Science and Information Systems**

Designed to introduce computer information systems to students in the fields 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 1423 Computer Networking 1 - Client**

This course introduces students in networking programs to workstation-based operating system design, implementation and administration. The primary components of workstation operating systems such as process management, memory management systems, file systems, security subsystems, I/O control subsystems, etc. are reviewed at the conceptual level. UNIX and Windows based operating systems are used as implementation case studies. Students are expected to become proficient with the ideas inherent in operating system design and how these ideas are implemented in both UNIX and Windows based workstation operating systems. Workstation-based peer-to-peer networking is reviewed in the context of both Windows and UNIX based networking. 4C/4/0/0

### **CSCI 1440 Networking Fundamentals**

This course provides an introduction to computer networking. The material in the course follows the OSI networking model as a basis for coverage of the entire field of computer networking. Topics include the physical, data link, network, transport, session, presentation and application layers of the OSI model as they are implemented in current network technologies. Students will use a very hands-on approach learning physical networking as well as logical networking tasks. The course makes extensive use of Cisco networking hardware and software as well as Cisco learning materials. With extensive outside study and review students in this course may become prepared to become certified as Network+ level technicians. 4C/4/0/0

### **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 ecommerce. 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 are 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 is the first of two courses that provide students with a foundation in computer science. Students develop intermediate programming skills using a language, (Java) that supports an object-oriented approach. Successful students in this course will be proficient in the development of algorithms using the fundamental logic structures, implementing their solution in Java and execution and testing of the resulting programs. The course is designed around the specifications published by the ACM and IEEE for a first and second course in computer science. 4C/4/0/0

**CSCI 1522 Structures of Computer Programming 2**

This course is the second of two courses that provide students with a foundation in computer science. Students develop intermediate programming skills using a language, (Java) that supports an object-oriented approach. This course is conducted with an emphasis on data structures, algorithms which operate data structures, algorithmic analysis, software engineering principles, software and information assurance. The course is designed around the specifications published by the ACM and IEEE for a second and third course in computer science. 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 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 object-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 covers information models and systems; database query languages; object-oriented and relational database design; transaction processing; distributed databases; data modeling; normalization; and physical database design. The relational model is studied in-depth and students are expected to develop proficiencies in the design and implementation of databases using it. Students will spend a significant portion of the course studying SQL. Students are expected to become proficient in the use of SQL and the implementation database typically used for this course is MYSQL. This course is based on ACM specifications for a first course in Database Systems. 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 CSCI 1551 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 CSCI 1551 or its equivalent. 4C/4/0/0

**CSCI 1562 C#.Net Programming**

This is a course in building Windows applications for the desktop using C#.Net. Students will learn how to write, compile, debug, and deploy Windows programs using Microsoft Visual Studio-C# for the .Net Framework. Wizard techniques will be explained. Students will learn to write C# programs that respond to events with .Net event handling. This course will cover topics included on several Microsoft

certification exams, such as building Windows Applications using C#. Students entering this course are expected to have taken a previous .Net course or have equivalent exposure to the .Net Framework. 4C/4/0/0

#### **CSCI 1568 PHP and MySQL Programming**

This is an in-depth course in the Linux\ Apache\ MySQL PHP [LAMP] technology stack. This is the most widely used web development platform for applications deployed on the Internet. Successful students will become proficient in the installation and configuration of the LAMP technology stack, elementary MySQL administration and PHP development. A significant amount of the course is dedicated to developing real-world applications in a laboratory setting. Students interested in this course should have previous exposure to web design and development. 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 the business enterprise. The purpose of the course is to understand the underlying principles of information systems for different management functions from the business perspective. 3C/3/0/0

#### **CSCI 2418 Computer Security Fundamentals**

This is an introductory course and provides an overview of practices and policies which secure workstations, local area networks, wide area networks and Internet-based applications. The course introduces the concept of cyber crime and security in networks and the internet. It presents the conceptual frameworks of computer security assessment. Topics covered include denial of service attacks, malware, viruses, Trojan horses, worms, encryption, industrial espionage, Internet fraud, cyber terrorism and information warfare. A substantial amount of the course is dedicated to the basics of assessing and securing information processing systems. An overview of security hardware and software is also covered in this course. 2C/2/0/0

#### **CSCI 2420 Computer Security**

This course is a comprehensive introduction to computer security. The course is an in-depth introduction to the concept of cyber crime and security in networks and the internet. It presents the conceptual frameworks of computer security assessment. Topics covered include denial of service attacks, malware, viruses, trojan horses, worms, encryption, industrial espionage, internet fraud, cyber terrorism and information warfare. The course makes extensive use of in class and Internet-based laboratories within which computer security scenarios are implemented and strategies for their design and operation are reviewed. Students taking this course should have a background in computer networking and a thorough understanding of client/server networking. With extensive outside study and review students in this course may become prepared to become certified as Security+ level technicians. 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. 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 Web site 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 retain 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 experience building Web sites prior to taking this class.) 4C/4/0/0

#### **CSCI 2451 Computer Networking 2 – Server**

This course is designed to give the student of networking an introduction to client/server networking. Students in this course will be expected to install and configure both the server operating system and clients connecting to the server. At the completion of the course students understand the basics specifying, designing, installing, configuring and maintaining a client/server network. Microsoft Client and Server Software is utilized as the teaching platform and students are expected to become proficient in the use to this commercial platform. Specialized topics include network security, name resolution system, (DNS, DNS&WINS), network access protection, (NAP), file services, print services, Active Directory service, etc. A significant amount of time in the course is dedicated to laboratory exercises and hands-on experience. With extensive outside study and review successful students in this course may become prepared to become certified as Microsoft Systems Administrator. 4C/4/0/0

**CSCI 2452 Cloud Computing**

This course introduces software and technologies used to create and manage cloud computers and access to them. Both public cloud computing services such as Amazon Web Services and private cloud computers will be reviewed. Students will work directly with servers and install and configure cloud systems during the course. This course is conducted in a hands-on manner and class sessions typically will be dedicated to hands-on exercise. (Prerequisite(s): CSCI 1440 or instructor approval) 4C/4/0/0

**CSCI 2453 Computer Virtualization**

This course introduces software and technologies used to create virtual computers. Proprietary virtualization software such as VMWare and Microsoft Virtualization are covered as well as open source projects such as Xen and Virtual Box. Students will work directly with servers and install and configure each of the virtualization systems during the course. This course is conducted in a hands-on manner and class sessions typically will be dedicated to hands-on exercises. (Prerequisite(s): CSCI 1440 or instructor approval) 4C/4/0/0

**CSCI 2460 Discrete Structures of Computer Science**

The course covers mathematical topics essential for work in computer science. Topics include: number bases, mathematical induction, sets, relations, functions, congruence, recursion, combinations and permutations, probability, graphs, trees, logic, Boolean algebra, and proof techniques. Computing related problems and examples are integrated throughout the course. Mathematical concepts in this course are reinforced through the use of software tools designed to illustrate the principles. The course is designed around the specifications published by the ACM and IEEE for a course on Discrete Structures. 4C/4/0/0

**CSCI 2461 Computer Networking 3 – Linux/Unix**

This course provides an in-depth study of UNIX based operating systems administration and networking. The installation configuration and management of UNIX-based servers is covered in-depth. The course also covers the configuration of UNIX-based operating systems in a network environment. Students will spend a significant amount of the classroom meeting time conducting hands-on laboratory exercises. This course makes extensive use of Sun Microsystems curriculum in Solaris systems administration and networking. With extensive outside study and review students in this course may become prepared to become certified as Solaris systems administrators. 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 2465 Computer Networking 4 – Infrastructure**

This course introduces networking students to the core infrastructure components of local, campus and wide area networks. The design, installation and configuration of routers, switches and other networking infrastructure devices is covered in-depth. Routing protocols and concepts are a primary focus of study in the course. The course makes extensive use of Cisco materials and equipment for routing protocols and concepts. This course assumes that the students have a background through experience, or coursework, that encompasses a fundamental understanding of networking. With extensive outside study and review, students in this course may become prepared to become certified Cisco networking technicians. 4C/4/0/0

**CSCI 2466 J2EE-JSP and Servlets**

This is a first course in using Java technology for the development of applications deployed in a client/server environment. The course introduces the concept of a Java application server and teaches the student how to install and configure an application server for use in developing and deploying distributed Java applications. Students then are introduced to elementary servlet programming, Java server pages [JSP] development and deployment, Java standard template library [JSTL] and an introduction to Java server faces [JSF]. Students will then develop server-based applications which access data stored in a database management system via the Java database connector [JDBC]. Students in this course are expected to have a background in introductory Java programming. 4C/4/0/0

**CSCI 2467 J2EE Application Development**

This course provides an in-depth examination of the latest J2EE technology stack. The key technologies which comprise J2EE such as servlets, Java server pages, Java server faces, enterprise JavaBeans and object relational mapping will be covered in detail. Students in this course are expected to take a “hands-on” approach to all materials presented in the course. The course is case study oriented and students are expected to be capable of developing simple Internet-based Java applications prior to taking this course. 4C/4/0/0

**CSCI 2475 A+ Hardware/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

**CSCI 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 explores 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 emphasis on new features of Mac OS X and how it differs from previous Macintosh Operating Systems. 2C/2/0/0

**CSCI 2560 Introduction to Computer Games**

This course deals in 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 2562 Metaverse Based Computer Games**

This course introduces the basic concepts of developing interactive computer games in a multi-user environment. Students will study the basic concepts of computer game architecture, design and programming. Using introductory concepts and simple programming languages, students will initially develop simple two-dimensional computer games and extend them to simple three-dimensional interactive games which utilize the basic algorithms and data structures used in creating two-dimensional games. Students in this course should have a background in college mathematics and trigonometry. 4C/4/0/0

#### **CSCI 2570 Machine Architecture and Organization**

This course covers basic hardware and software structure; I/O and main memory organization; internal representation of data; addressing methods; program controls; microprocessor families; multiprocessors; concurrent programming and synchronization; and RISC architectures. Students in this course will become proficient in assembly level programming and will extend this knowledge to higher level languages such as language C. The course makes extensive use of software designed to simulate the hardware of a MIPS design. Students are expected to devote a significant amount of time in analyzing designing and implementing low-level software for this platform. The course is designed around the specifications published by the ACM and IEEE for a course on Computer Organization and Architecture. 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; 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 2750 and experience with a high-level computer language) 4C/4/0/0

#### **CSCI 2605 Web 2.0 Technologies**

This course is an overview of the phenomena of Web 2.0. It reviews many of the technologies which make up Web 2.0. The course covers blogs and blogging, vlogs and vlogging, podcasting, video podcasting, internet broadcasting, wiki technology and enhanced web-based multimedia. The course is designed to bring those comfortable with Web 1.0 technology into participatory, media-rich Web 2.0 platform. 4C/4/0/0

#### **CSCI 2610 Web 2.0 Multimedia Tools**

This course familiarizes students with the tools to craft media-rich web sites. The major open source and proprietary software products are reviewed and students are expected to complete a series of exercises involving the creation of animations, digital video and digital audio. (Prerequisite(s): Introductory HTML skills and knowledge of the organization of the World Wide Web) 4C/4/0/0

#### **CSCI 2615 Web 2.0 Open Source Software Foundations**

This course explores the open source underpinnings of the migration of the World Wide Web to Web 2.0 infrastructure. This course first explains open source licenses, such as GPL.

The major open source projects which are currently leading Web 2.0 evolution, such as Linux, Apache, PHP, are then reviewed. Their application and general organization are thoroughly covered. (Prerequisite(s): Understanding of the organization and structure of the World Wide Web and beginning programming skills) 4C/4/0/0

#### **CSCI 2620 Web 2.0 Programming Paradigms and Software Tools**

This course introduces students to new approaches to programming for Web 2.0 applications. A significant amount of time will be devoted to AJAX (Asynchronous JavaScript and XML), Ruby on Rails, PHP and other development tools which have been associated with Web 2.0. The course makes extensive use of relational database management systems such as MySQL. (Prerequisite(s): Introductory HTML skills and a working knowledge of a programming language such as C, C++ or Java.) 4C/4/0/0

#### **CSCI 2621 Web 2.0 - Ruby on Rails**

This course is an introductory course in programming Ruby on Rails (RoR) framework for Internet applications. Ruby is considered the next generation language for developing applications for the World Wide Web. The combination of the power of the Ruby language and the flexibility and extensibility of the Rails framework are examined. The course assumes a familiarity with development for the World Wide Web, specifically, applications utilizing the model-view-controller model from the presentation layer to the enterprise rear end. This is a technology which addresses database-driven websites and students enrolling in the course should have a knowledge of relational databases. This is a hands-on course designed for students to develop functioning database driven websites. 4C/4/0/0

#### **CSCI 2622 Web 2.0 - AJAX**

This course is an introductory course in AJAX programming for Internet applications. A key Web 2.0 technology AJAX utilizes (X)HTML, JavaScript, XML and CSS technologies to enable the developer to circumvent the HTTP client-server process to produce highly interactive and intuitive web applications. The course assumes an elementary knowledge of JavaScript, XML and relational database technologies prior to enrollment. The course begins with the elementary aspects of AJAX programming and then focuses on popular AJAX toolkits and frameworks such as Dojo, Google Web Toolkit, JSF and Echo2. The key elements of the course are hands-on exercises which utilize AJAX tools and techniques to develop interactive web sites. This course utilizes Java server-side technologies and MySQL as the server-side database management system. 4C/4/0/0

#### **CSCI 2628 Programming the i-Device**

This course introduces the software, tools and techniques necessary to program the popular i-Devices from the Apple computer company. Students will learn how to write programs that can run on the iPhone, iPod and iPad. The course will introduce the software development kits for the iDevices, Xcode development tools, Objective-C, and the Cocoa graphical library. Students will develop a series of applications during the course. Students in this course are expected to have previous programming experience in language C or C++. (Prerequisite(s): CSCI 1531 or instructor approval) 4C/4/0/0

**CSCI 2629 Programming Android Devices**

This course introduces the software, tools, and techniques necessary to program the mobile devices that utilize the Android operating system and its supporting software development environment. Students will learn how to write programs that can run on any device supporting the Android environment. The course will introduce the software development kits for Android devices, Eclipse based development tools, Java ME, and the supporting graphical library. Students will develop a series of applications during the course. Students in this course are expected to have previous programming experience in the Java programming language. (Prerequisite(s): CSCI 1521 or CSCI 1541 or instructor approval) 4C/4/0/0

**CSCI 2630 Metaverse Applications Development**

This course covers the conceptualization, design, development and deployment of a programming application that will execute as part of a Metaverse environment. The focus of the course is to add behavior to the virtual world we term a Metaverse. The Java programming languages are used in the course and programming applications will be developed in this language. The term project, which will be a large part of the course, will be designed conceptually, programmed in Java and deployed in a metaverse. Students are expected to have a background in Java programming and strong interest in multiuser game programming. 4C/4/0/0

**CSCI 2632 Metaverse Graphics Programming**

This course is a three-dimensional graphics application programming course which uses the OpenGL library as a graphics programming library standard. Students in this course will be expected to program three-dimensional objects, both active and passive, that will be placed in a three-dimensional Metaverse. Students are expected to develop advanced graphics applications that utilize knowledge of algebra, geometry and physics. Programs will be deployed into a Metaverse environment and a significant part of the course is the development and successful deployment of such applications. 4C/4/0/0

**CSCI 2690 Computer Science Internship**

A cooperative work-student program between Saint Paul College Computer Science Program and a business facility, to allow the student an employment-like experience. (Prerequisite(s): Instructor approval) Variable 1-8 credits

**CSCI 2710 Metaverse Application Development Capstone**

This course synthesizes previous programming and design course content to create an integrated application for deployment to a Metaverse. Students in this course are expected to work in teams and develop an application in a manner which simulates the development path that would be followed in real world application development. Students are expected to utilize prior learning to develop and demonstrate their work, through the use of movies created from the computer screen. 4C/4/0/0

## ■ Construction Supervisor

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**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; 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 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 and building specifications to verify dimensions of building components and determine total costs of those components. Verification of construction procedures described in building specifications and calculation of 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; with emphasis on understanding functions and interrelationships of documents. It includes a review of laws applied to industry and application of contracts and law to case studies. 3C/3/0/0

**CNSP 2481 Advanced Scheduling**

Project scheduling procedures including computer applications and resource leveling, project types, office and field planning required to initiate work, equipment and construction methods selection process, and an examination of contractual mandates specified. 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 and communicate in the complex environment of a supervisor and take responsibility as appropriate, will be components of the internship. 2C/0/0/2

**CNSP 2491 Advanced Estimating**

Student will be able to bid projects with work quantifications, submit pricing for lump sum and unit price bids and prepare design/build proposals. 3C/2/1/0

**CNSP 2500 Construction Superintendent 1: 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 2: 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

## ■ Cosmetology, Nail Care and Esthetician Core Courses

### **CHSN 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 with CHSN 1410, CHSN 1420, CHSN 1445 and CHSN 1450) 3C/0/3/0

### **CHSN 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 CHSN 1405) 3C/1/2/0

### **CHSN 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

### **CHSN 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 CHSN 1405 and CHSN 1406) 3C/1/2/0

### **CHSN 1410 Preclinic Introduction**

Provides an introduction to cosmetology, nail technology and skin care, including professional image, Minnesota laws and rules, safety and sanitation. (Prerequisite(s): High School Diploma or a GED) 4C/3/1/0

### **CHSN 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 CHSN 1409) 3C/1/2/0

### **CHSN 1418 Advanced Hair Care**

Provides advanced skill training, color and chemical reformation in hair cutting and styling. (Prerequisite(s): Completion of or concurrent enrollment in CHSN 1413) 4C/1/3/0

### **CHSN 1420 Body Systems and Diseases**

This course presents cells, tissue and organs as they relate to the 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 between treatable disorders and those that require referral to a physician. (Prerequisite(s): Enrollment in Cosmetology, Nail Technician or Esthetician Program) 4C/3/1/0

### **CHSN 1431 Clinic 1 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1432 Clinic 2 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1433 Clinic 3 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1434 Clinic 4 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1435 Clinic 5 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1436 Clinic 6 for Cosmetology Majors**

This course is designed to provide clinical practice and performance of previously learned hair, skin and nail skills. This course provides the necessary hours to complete hair, skin and nail care quotas as mandated by the State of Minnesota and to develop proficiency in hair, skin and nail services. (Prerequisite(s): CHSN 1406) 3C/0/3/0

### **CHSN 1442 Clinic 1 for Estheticians**

This course is designed to provide clinical practice of previously learned skin care skills. (Prerequisite(s): CHSN 1420, CHSN 1445 and CHSN 1450 or concurrent enrollment) 4C/0/4/0

### **CHSN 1443 Clinic 2 for Estheticians**

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 1442) 4C/0/4/0

**CHSN 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, concurrent enrollment or within the same semester) 4C/3/1/0

**CHSN 1450 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, concurrent enrollment or within the same semester) 4C/1/3/0

**CHSN 1451 Salon Operations 1 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435 or CHSN 1431 or 1461) 1C/0/1/0

**CHSN 1452 Salon Operations 2 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435 or CHSN 1431 or 1461) 2C/0/2/0

**CHSN 1453 Salon Operations 3 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435 or CHSN 1431 or 1461) 3C/0/3/0

**CHSN 1454 Salon Operations 4 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435 or CHSN 1431 or 1461) 4C/0/4/0

**CHSN 1455 Salon Operations 5 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435, or CHSN 1431 or 1461) 5C/0/5/0

**CHSN 1456 Salon Operations 6 for Cosmetology/Nail Technician Majors**

Provides students with additional time to complete required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1435 or CHSN 1431 or 1461) 6C/0/6/0

**CHSN 1461 Clinic 1 for Nail Technicians**

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. (Prerequisite(s): CHSN 1407) 3C/0/3/0

**CHSN 1470 Sanitation for Hair Braiders**

This course presents safety issues and sanitation principles practiced in the service of hair braiding. 2C/2/0/0

**CHSN 1475 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. 2C/1/1/0

**CHSN 1520 40 Hour Refresher**

This 40 hour refresher course is for individuals who do not have enough hours of experience in the past 3-year licensing period and wish to renew their individual cosmetology license. Must present MN Cosmetology license to the instructor. 2C/2/0/0

**CHSN 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 licensing period and would like to renew their individual manicuring license. Must present nail technician license to the instructor. 2C/1/1/0

**CHSN 1551 Salon Operations 1 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 1C/0/1/0

**CHSN 1552 Salon Operations 2 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 2C/0/2/0

**CHSN 1553 Salon Operations 3 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 3C/0/3/0

**CHSN 1554 Salon Operations 4 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 4C/0/4/0

**CHSN 1555 Salon Operations 5 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 5C/0/5/0

**CHSN 1556 Salon Operations 6 for Estheticians**

This course gives students additional time to complete the required services and/or hours for licensure. (Prerequisite(s): Completion or concurrent enrollment in CHSN 1443) 6C/0/6/0

**CHSN 1565 155 Hour Reactivation Course**

This course provides 155 hours of the theory and practical requirements for reactivating a cosmetology license. Must have a MN Cosmetology license that is inactive or expired by more than 3 years and must present it to the instructor. 6C/3/3/0

**CHSN 1585 Esthetics Refresher**

This course offers the Minnesota Board of Barber and Cosmetology mandated refresher course for licensure requirements or can be taken to expand the cosmetologist's knowledge of the Esthetics field. Refresher students must complete 40 clock hours. Must present cosmetology or esthetician license to instructor. 2C/1/1/0



### **CHSN 1590 Esthetics Reactivation**

This course offers the Minnesota Board of Barber and Cosmetology mandated reactivation course for licensure requirements or can be taken 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. Must have a MN esthetician license that is inactive or expired by more than 3 years and must present it to the instructor. 3C/2/1/0

### **CHSN 2411 CIDESCO Exam Student 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 esthetician curriculum) 3C/0/3/0

### **CHSN 2430 Minnesota Cosmetology Instructor Renewal**

This course will meet the licensing renewal requirement of the Minnesota Board of Barber and Cosmetology for Instructor license renewal. It consists of 15 hours of hands-on learning in program clinic, 15 hours of teaching methods in theory classrooms and 15 hours analysis and product knowledge in CHSN 1450 Skin Analysis and Massage and CHSN 1445 Cosmetic Chemistry. 2C/0/2/0

### **CHSN 2540 Introduction to Skin Histology and Professional Esthetics Skin Peels**

Introduction to the histology of the skin and the effects of Chemical Peeling. 2C/1/1/0

### **CHSN 2542 Chemical Peels and Skin Histology**

Advanced skin analysis based on genetic skin types and environmental factors and the effects of peeling the skin. 2C/1/1/0

### **CHSN 2580 Cosmetology Instructor License**

This course provides 30 hours of teaching methods for Cosmetology and 8 hours of the laws that support and protect the Cosmetology industry. Must meet Board of Cosmetology Law 2105.0140 and must present a current Cosmetology license to the instructor. 2C/1/1/0

## **■ Culinary Arts**

### **CULA 1400 Culinary Basics 1**

This course is made up of two units: "Introduction to Culinary Arts" which is designed to allow the student to become familiar with the hospitality industry, our program and the foundation skills necessary to become a foodservice professional, and "Basic Baking" which is designed to allow the student to develop knowledge and skills necessary to work in a professional baking environment. 3C/1/2/0

### **CULA 1420 Culinary Basics 2**

This course is made up of two units: "Basic Pantry and Cold Food Production" which is designed to allow the student to develop knowledge and skills necessary to work in the garde manger and pantry areas in a professional foodservice environment, and "Basic Range and Hot Food Production" which is designed to allow the student to develop knowledge and skills necessary to work in a professional foodservice environment. Foundation stocks, sauces and soups are the major component. Must be taken concurrently with Culinary Basics 1 or have instructor approval. 4C/0/4/0

### **CULA 1440 Breakfast**

Covers the many types of foods usually associated with breakfast/brunch service. Most of these items will be prepared, served in the class and in a restaurant setting. (Prerequisite(s): CULA 1400 and CULA 1420 or concurrently with CULA 1400) 1C/0/1/0

### **CULA 1450 Meat Fabrication**

Covers the processing of meat, fish and poultry items. 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. Must be accepted as Culinary Arts major. 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 students' 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/1/1/0

**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. (Prerequisite(s): CULA 1400 or instructor approval) 2C/0/2/0

**CULA 1600 Professional Introduction to Wine**

Review the origins and history of the vine, vineyard calendar, soil and climate, natural hazards, growing regions and major grape varieties 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 varieties, 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 1610-1640.) 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. Includes alcohol server training. (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 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 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 that are somewhat unusual on daily menus because of 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

**CULA 3630 Artisan Baking**

This hands-on course is designed to build proficiency in the preparation of a number of different types of artisan baking of products focusing on products used in restaurants and specialty bakeries, utilizing organic and local ingredients. Discussions will include technique and consistency issues, the role of local & organic ingredients in baking and the baker's responsibility in promoting sustainability. 3C/1/2/0

**CULA 3635 Artisan Cheese**

This class is designed to illustrate the importance of artisan cheeses and their role in the food world through ancient and modern times. Course topics will include fresh, soft, semi soft, hard, mold ripened, and wash rind cheeses. Students will learn hands on cheese making and food pairing techniques that utilize local farms and artisan foods. The class will compare and discuss the regional cheeses of America, Europe, the Mediterranean, and different cultures abroad. 3C/1/2/0

### **CULA 3641 Charcuterie**

This class is a thorough introduction into the art of charcuterie and condiment making with an emphasis on product utilization. Students will learn various preservation techniques including brining and curing, working with smoked products, marinades, pickled products, relishes, cold sauces, mustards, bacons and hams within specific sanitary confines. Discussions will include technique and sanitation issues as well as the role of local & organic procurement of ingredients and the charcuterie's responsibility in promoting sustainability. 2C/1/1/0

### **CULA 3650 Organic and Sustainable Foods**

This class is designed to illustrate the importance of organic and local ingredients, from the harvest at the farm to the final plate presentation in the kitchen. Students will get an introduction to organics, sustainable agriculture and seasonal cooking. The class will participate in trips to local farms and markets and a gardening project. Students will get an in-depth look at the roles of local farms and artisan food producers, along with techniques in scratch cooking and product utilization. 3C/1/2/0

## **■ Digital Graphics and Interactive Multimedia**

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### **DGIM 1443 Dreamweaver 1**

This course explores the basics of Dreamweaver. Topics include file organization, the Dreamweaver 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 and develop a simple Web site using the techniques learned. 2C/2/0/0

### **DGIM 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 DGIM 1443 or its equivalent. 2C/2/0/0

### **DGIM 1446 Adobe Fireworks 1**

This course introduces the student to Fireworks. 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

### **DGIM 1447 Adobe Fireworks 2**

This course is a continuation of DGIM 1446. 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 DGIM 1446 or its equivalent. 2C/2/0/0

### **DGIM 1448 Adobe Flash 1**

This course introduces the student to Flash. 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

### **DGIM 1449 Adobe Flash 2**

This course takes you beyond the basics of DGIM 1448. Topics include adding sounds to Flash, publishing movies, layer editing, Action Script, importing Quick Time movies into Flash 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 DGIM 1448 or its equivalent. 2C/2/0/0

### **DGIM 1472 Digital Multimedia for Non-Majors**

This course is an introduction to digital multimedia tools for students not majoring in the computer careers area of the college. It is an overview course on the subject of digital media and covers a variety of digital media tools such as Photoshop, Audacity, MovieMaker, and other tools of this type. The course will cover the topics of interest to someone planning to use the software and hardware systems for documentary purposes in other coursework areas. 2C/2/0/0

### **DGIM 1483 Photoshop 1**

This course introduces the student to Adobe Photoshop. Topics include the Photoshop interface, hardware and software requirements, file formats, pixels, vectors, resolution, color theory, Photoshop color management, masks, type and topography, painting tools and brushes, layers and layer styles, filters, extraction, liquefy and the pattern maker. This is a hands-on course where the students will develop a project using the knowledge gained in class. 2C/2/0/0

### **DGIM 1484 Photoshop 2**

This course is a continuation of DGIM 1483 Photoshop 1. Topics include image composition, retouching, compositing, ImageReady, Web design, print and prepress, actions, and automation. This is a hands-on course where the students will develop a project using knowledge gained in class. (Prerequisite(s): DGIM 1483 Photoshop 1 or equivalent knowledge) 2C/2/0/0

### **DGIM 1485 Second Life Basics**

This course introduces students to the world of Second Life – a three dimensional virtual environment which is built and maintained by Linden Lab. Virtual environments are predicted to become a primary portal to the Internet after the year 2010. Students will work with a graphical user-interface to alter, develop, build, or submit a customized personal avatar or community, explore in-world design considerations and work with scripted objects. Second Life's implication on the marketing and branding of businesses and organizations will be explored. Programming and planning for future Second Life world development and interaction will also be studied. Students will learn to use Second Life to develop and market products, develop collaborative work environments, create animations and interact with a global community of Second Life residents. Individuals signing up for this class must be 18 or older. 2C/2/0/0

**DGIM 1540 Blogging Applications**

This course introduces various web logging (blogging) applications currently in use today on the World Wide Web, along with common practices used by bloggers. Applications to be covered include Blogger, Tumblr, Twitter, WordPress, plus other newly developed applications. In addition to the general use of these applications, students will be introduced to techniques used for Search Engine Optimization (SEO), web traffic analytics, monetized ad placement, Real Simple Syndication (RSS) support, as well as audio and video blogging options. While there is no prerequisite for this course, students are strongly encouraged to have a basic understanding of the Hyper Text Markup Language (HTML). 2C/2/0/0

**DGIM 2500 Metaverse Graphics Design 1**

This course is an introduction to the development of three-dimensional models for the virtual reality areas which we call Metaverses. This first course of the two-course series involves learning how to model physical spaces using three-dimensional modeling tools. The notions of three-dimensional geometry, geometric axes, scale, vectors and three-dimensional shapes are covered in some detail. These concepts are reinforced by actual in-class geometric modeling using the popular three-dimensional modeling tool SketchUp provided by Google, Inc. Students will be expected to develop a significant three-dimensional project by the end of the term and prepare a detailed explanation of their work. It is expected these SketchUp models be of a quality to be candidates for submission to Google 3D Warehouse. 4C/4/0/0

**DGIM 2502 Metaverse Graphics Design 2**

This is an application course in the development of three dimensional models for the virtual reality areas which we call Metaverses. This second course of the two course series involves applying the conceptual knowledge developed in Metaverse Graphic Design 1 to actual modeling problems. Students will develop a competency in the use of three popular three dimensional modeling tools: Maya, 3ds Max and Blender. These software tools are used to develop three-dimensional models that replicate physical worlds and purely imaginative worlds. Students will be expected to develop three significant three dimensional projects, using each of the tools, by the end of the term and prepare a detailed explanation of their work. 4C/4/0/0

**DGIM 2510 Metaverse Application Design**

This course focuses entirely on developing three-dimensional designs for Metaverses. Students in the course are permitted to choose a three-dimensional modeling tool which they feel comfortable using. Tool sections will include SketchUp, Maya, 3ds Max or Blender. Students will work in this course under the direction of the instructor to develop metaverse-specific applications of three-dimensional models using modeling skill sets developed in earlier course. This is an advanced course in developing a very specific type of model to be deployed on a defined multi-user gaming platform. Student work in this course will be individual and the course is conducted in a manner similar to studios in art institutions. Students will produce and deploy a small scale metaverse model in the course. Students will also learn deployment toolsets for virtual worlds. 4C/4/0/0

**DGIM 2560 Illustrator**

In this course, the student will discover the capabilities of the Adobe Illustrator software tool. This begins with an overview of vector vs raster graphics fundamentals. Specific techniques will involve navigating and customizing the Adobe Illustrator

workspace, demonstrating selection and alignment with various tools, using of magic wands, item grouping and working with various open and closed path objects. In addition, various transformation techniques including scaling, reflecting, rotating, distorting, shearing and perspective will be explored along with how filters and symbols are used to enhance vector graphic projects. Detailed proficiency will be acquired using the Pen, Pencil, Brush, Layer, Spraycan tools along with a greater understanding of both print and web color theory. Upon completion of this course, the student will complete a final project using techniques from lessons learned. 4C/4/0/0

**DGIM 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

**DGIM 2569 Digital Portfolio Development**

This course teaches the student how to create a portfolio. In this course the students will create a digital (web based) and hard copy (paper) portfolio. Topics will include portfolio definitions, design, types, goals, content, organization, and presentation, showing their creative talents to an audience of peers, instructors, and industry professionals. 2C/2/0/0

**DGIM 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

**DGIM 2571 Digital Photography 2**

This course is a continuation of DGIM 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 and controlling output options. This is a hands-on course where the students will develop a project using knowledge gained in class. (Recommendation(s): DGIM 2570 or its equivalent) 2C/2/0/0

**DGIM 2572 Computer Animation 1**

This course introduces students to the 3ds 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

### **DGIM 2573 Computer Animation 2**

This course builds on Computer Animation 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

### **DGIM 2574 Computer Animation 3**

In this course, the student will create a variety of animation projects for use in their professional portfolio. Using the software tools and techniques developed in DGIM 2572 & DGIM 2573, students will create both 2D and 3D animation projects in both an individual setting and as part of a larger team environment. Particular emphasis will be placed on rendering issues. In addition, students will explore the latest changes in technology and software in the rapidly changing world of computer animation. (Prerequisite(s) or Co-Requisite(s): Student should either have completed DGIM 2573, be currently enrolled in DGIM 2573 or have extensive knowledge of 3D Studio Max and/or Blender before taking this course.) 2C/2/0/0

### **DGIM 2580 Advanced Digital Photography**

This course concentrates on advanced digital photography methods, large scale printing and High Dynamic Range (HDR) processing. The student will review their key camera controls, demonstrate use of creative exposure controls, demonstrate use of various tonality and contrast controls, discuss how to obtain the best image, discuss use of color, demonstrate different methods of composition, identify the "perfect" time to shoot a given picture, demonstrate the use of available light and demonstrate various types of pictures one might take (e.g. landscape, travel, portraits, sports, wildlife, and fine art photography). Large format printing will be discussed and practiced along with print color management. The exciting field of HDR photography will be discussed and the student will demonstrate, through the production of a final project, various HDR techniques. (Prerequisite(s): DGIM 2570 Digital Photography 1 and DGIM 2571 Digital Photography 2 or instructor approval) 4C/4/0/0

### **DGIM 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

### **DGIM 2587 Digital Video 1**

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

### **DGIM 2588 Digital Video 2**

This course covers advanced video production techniques using various video editing tools in use within the industry. The primary tools to be covered in class will be Premiere Pro by Adobe and Final Cut Pro by Apple. Topics to be explored in both tools will include storyboarding, basic editing, advanced editing, video transitions, special effects, multi-track editing and importing/exporting various video formats. In addition, various audio editing and mixing techniques will be explored using both tools. A brief overview comparing the strengths and weaknesses of these two primary tools plus other standard video editing tools used in industry will be explored. (Prerequisite(s): DGIM 2587 Digital Video 1) 2C/2/0/0

### **DGIM 2589 Digital Motion Graphics: After Effects**

This course introduces the Adobe tool After Effects and explores its usage in video and film post production. Students will learn to animate, alter and compose media in both 2D and 3D space. Various other non-linear editing methods will be explored. Advanced keyframing techniques will be explored in depth, along with other standard post-production techniques used in modern video editing. Various After Effects plug-in usage will be explored, along with the integration of After Effects with other tools in the Adobe suite. Finally, the features of various competing products to After Effects, such as Blender and Jahshaka will be reviewed and compared. (Prerequisite(s): DGIM 2587 Digital Video 1 or concurrent) 2C/2/0/0

### **DGIM 2591 Computer Graphics & Digital Multimedia Internship**

A cooperative work-student program between Saint Paul College's Computer Graphics & Digital Multimedia Program and a business facility to allow the student an employment-like experience. (Prerequisite(s): Instructor approval) Variable 2–8 credits

### **DGIM 2597 Special Topics in Computer Graphics & Digital Multimedia**

Provides learning experiences that meet the needs of students, major programs and the College. (Prerequisite(s): Instructor approval) Variable 1–6 credits

### **DGIM 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

### **DGIM 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

**DGIM 2702 Metaverse Design Capstone**

This course is the capstone course in Metaverse Design. The course is meant to integrate the various skills Metaverse Design students have developed in previous coursework in this area. Under the direction of the faculty, students will work on a Major, complex development of a Metaverse model which will approximate a production model. Students will work in design teams and the course is intended to replicate the real-world design process from conception, to design, to conversion and finally deployment of a Metaverse world. Teams will deploy and demonstrate their work from a server which can be reached anywhere on the Internet. 4C/4/0/0

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**Economics**


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**ECON 1710 Introduction to the 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

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**Electrical Maintenance**


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**ELTN 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

**ELTN 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): ELTN 1111) 4C/4/0/0

**ELTN 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): ELTN 1112) 4C/4/0/0

**ELTN 1114 Electrical Maintenance 4**

This is the last of four semester curriculum courses in Electrical Maintenance. The last semester presents advanced electrical concepts that provide the foundation for the knowledge base necessary 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): ELTN 1113) 4C/4/0/0

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**Electrical Technology**


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**ELTN 1410 National Electric Code 1 and Trade Calculations**

This is an introductory course to comprehending the National Electrical Code and the mathematical skills that are required to perform electrical circuit calculations required in the electrical industry. Students will study the history of the code, the code making process, how changes are adopted into the code and the NEC basic structural components. Technical areas include definitions of technical terms and concepts, applied arithmetic calculations, algebraic functions, trigonometry functions and graphing as they apply to circuit analysis and code requirements. 4C/1/3/0

**ELTN 1420 Direct Current Circuit Analysis**

This course covers the basic concepts of electricity and DC circuits. Topics included are resistance, current, voltage, power, conductors and insulators. Students will learn methods to mathematically determine electrical quantities using Ohm's law and additional electrical formulas, to determine values in series, parallel and combination circuits. The skills and techniques needed to use electrical multimeters to test and troubleshoot circuits is studied. Hands-on experiments for all DC circuit types will consist of building circuits with power supplies and electrical components, and will be evaluated with electrical multimeters. 4C/1/3/0

**ELTN 1430 Alternating Current Circuit Analysis**

This course covers the basic concepts of AC circuits. Topics included are the study of electromagnetic principles, sine wave principles and relationships, inductance, capacitance, series and parallel circuits, power, circuit analysis and resonance. Students will learn methods to mathematically determine instantaneous electrical values. Hands-on experiments will include the construction of circuits showing the operation of electromagnets, sine waves, series and parallel resistive, inductive and capacitive circuits. (Prerequisite(s): ELTN 1410 and ELTN 1420) 4C/1/3/0

**ELTN 1440 Single-Phase Motors and Generators**

This course starts with the basic characteristics of DC motors and DC generators, the types, construction, principles of operation, installation, and maintenance, and formats of controls. Next the student will discover the common types of AC motors used today, the construction, principles of operation, installation and troubleshooting methods. Hands-on experiments using specialized test equipment and electrical meters will include energizing both DC motors and generators and also AC motor types under various load conditions. (Prerequisite(s): ELTN 1410 and ELTN 1420) 4C/1/3/0

**ELTN 1510 Three-Phase Systems, Motors and Generators**

This course covers three-phase theory, wiring system calculations, methods, and installations. Three-phase motors and generators will also be introduced so students can identify, connect, operate, troubleshoot, and maintain them. This course also covers the proper use of three-phase test equipment used to operate, troubleshoot, and maintain the systems studied in this course. 4C/1/3/0

**ELTN 1520 Introduction to Electronics and Test Equipment**

Students are introduced to semiconductors, study different types of diodes and connect them in typical circuits. Complete power supply circuits are connected, analyzed and tested. This course covers transistor theory, operation, connection, testing, and troubleshooting practices for transistors in amplifier and switching applications. This course covers the use of electrical and electronic test equipment. 4C/1/3/0

**ELTN 1530 Intermediate Electronics and PLC's**

This course covers transistor theory, operation, connection, testing, and troubleshooting practices for transistors in amplifier and switching applications. Also, this course covers transistor the information necessary to gain working and troubleshooting knowledge of thyristors, light, and heat sensitive devices and electrical transducers. Also introduced are programmable logic controllers (PLC's) and it explains how they can be used to control machines and building equipment. Hands-on programming of simple process control examples including system wiring to input/output devices will be fully integrated throughout the course. 4C/1/3/0

**ELTN 1540 Low Voltage Systems and Job Site Safety**

This course will cover the basic concepts associated with fire & security alarm systems and data communications systems. Hands-on application of components include fire alarm systems, security systems, and data communication and cabling systems. This course will also cover all aspects OSHA job safety for construction electricians. It will address safety issues for awareness rather than compliance purposes. 4C/1/3/0

**ELTN 2410 Distribution, Power and Specialty Transformers**

This course covers single-phase, Three-phase and specialty transformer operation, including transformer losses, efficiency, and phase relationships. There is extensive math and in-depth coverage of Article 450 of the National Electrical Code. 4C/1/3/0

**ELTN 2420 Motor Controls**

This course covers design, wiring, and troubleshooting of control and load circuits for single-phase and Three-phase motors. Also covered is the sizing of conductors, circuit short circuit and ground fault protection, and the calculation and proper sizing of motor overload protection. There is also in-depth coverage of Article 430 of the National Electrical Code. 4C/1/3/0

**ELTN 2430 Residential Wiring and Blueprint Reading**

This course covers the material and design aspect of residential wiring. Topics covered include branch circuit requirements, wiring methods, and the use of blueprints. Related articles in the National Electrical Code are also covered. 4C/1/3/0

**ELTN 2440 Heating and Cooling System Controls**

This course covers the control of heating and cooling systems in residential and commercial situations. Gas, oil, and electric systems are covered. Related articles in the National Electrical Code are also covered. 4C/1/3/0

**ELTN 2510 Wiring Methods and Systems**

This course covers the methods used to deliver power in a safe and efficient electrical installation. Conductor properties and various configurations are discussed and installed. (Prerequisite(s): ELTN 2410, ELTN 2420, ELTN 2430, ELTN 2440) 4C/1/3/0

**ELTN 2520 Commercial Wiring Methods**

This course covers the design, material usage and safe installation practices on commercial job sites. Power tool safety and usage is applied in a hands-on mockup setting. (Prerequisite(s): ELTN 2410, ELTN 2420, ELTN 2430, ELTN 2440) 4C/1/3/0

**ELTN 2530 Industrial Wiring Methods and Service Entrance**

This course covers the design, material usage and safe installation practices on industrial job sites. Requirements and safe installation of service entrance equipment and conductors are also covered. (Prerequisite(s): ELTN 2410, ELTN 2420, ELTN 2430, ELTN 2440) 4C/1/3/0

**ELTN 2540 National Electrical Code 2**

This course takes an in-depth look at the requirements of chapters one through 5 in the current National Electrical Code. Compliance is discussed in the classroom and reinforced in a hands-on mockup setting. (Prerequisite(s): ELTN 2410, ELTN 2420, ELTN 2430, ELTN 2440) 4C/1/3/0

## ■ Energy Process Technology

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**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 plant 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. 3C/2/1/0

**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 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

**ENGY 2530 Power Plant Industrial Maintenance**

Covers basic principles of lubrication, types of bearings, methods of installation, and common types of coupling devices found in modern manufacturing and how they should be maintained. 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, and safe rigging procedures used in industrial machine repair applications will be covered. 4C/4/0/0

## ■ Pre-Engineering – Coming Soon

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## ■ Engineering Technology

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**ENGT 1102 Introduction to Engineering Design**

Introduction to Engineering Design develops student problem-solving skills to develop a 3D model or solid rendering of an object. Students focus on the application of visualization process and tools provided by modern, state-of-the-art computer hardware and software, Inventor, an AutoCAD product. This computer-based process replaces the traditional hand drawing methods. 4C/1/3/0

**ENGT 1106 Principles of Engineering**

Principles of Engineering is a broad-based survey course designed to help students understand the field of engineering, engineering technology and its career possibilities. Students will develop engineering problem-solving skills that are necessary in post-secondary education programs and engineering careers. Students will explore various engineering systems and manufacturing processes. They will also learn how engineers address concerns about social and political consequences of technological change. The main purpose of this course is to experience through hands-on, problem-solving activities what engineering is all about and to answer the question, "Is a career in engineering or engineering technology for me?" 4C/1/3/0

## ■ English

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**ENGL 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 ENGL 1415. (Prerequisite(s): READ 0721 or ESOL 0850, department approval or appropriate assessment score.) 4C/4/0/0

**ENGL 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 ENGL 1410 or appropriate assessment score.) 4C/4/0/0

**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 READ 0722 Reading 2, ENGL 1415 Fundamentals of Writing 2 with a grade of "C" or better, 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 1720 Introduction to Creative Writing**

In this course, we will explore creative writing through reading, analysis, discussion and by writing in three genres: poetry, short story and creative nonfiction. Students will develop an understanding of creative writing techniques and the elements of literature through analysis of literary technique and applying knowledge of craft technique to their own work. Students will learn writing techniques through exercise and practice. Students will analyze and respond critically to poetry, fiction and creative nonfiction in the texts and works produced by peers through reading, discussion, group work, workshops and in writing in order to practice an informed response to creative literature. Students will be encouraged to investigate publication opportunities for their own original writing and to present their own original work in a public reading at the end of the semester. (Prerequisite(s): Grade of "C" or better in ENGL 1711) (MnTC: Goal 6) 3C/3/0/0

**ENGL 1730 Introduction to Technical Writing**

Introduction to Technical Writing is a college-level, introductory course emphasizing workplace writing and communication useful in professional, business, and vocational/technical fields. There will be attention to clear, correct and effective writing necessary for success in the workplace. Assignments include internal and external communication, including e-mail, formal correspondence and memos, researched formal and informal reports, proposals and requests for proposals, instructions, writing for Internet publication, and production of an application packet. Students will be asked to consider audience analysis, usability, workplace writing ethics, and produce work appropriate for Internet publication. (MnTC: Goal 1) 3C/3/0/0

**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 stories of their lives: 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. (Recommendation(s): READ 0722 Reading 2 with a grade of “C” or better, ENGL 1415 Fundamentals of Writing 2 with a grade of “C” or better, or appropriate assessment score.) (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. (Recommendation(s): READ 0722 Reading 2 with a grade of “C” or better, ENGL 1415 Fundamentals of Writing 2 with a grade of “C” or better, or appropriate assessment score.) (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 1) (MnTC: Goals 2 & 6) 3C/3/0/0

#### **ENGL 2732 Exploring the Short Story**

This course will focus on analysis of short stories in the context of a genre, a theme, or an author. We will consider the short stories’ historical contexts, their critical commentary, and their cultural significance as reflected in the time periods in which they were written. We will discuss the themes and values expressed in these short stories and examine how they impact us as readers. (Prerequisite(s): Grade of “C” or better in ENGL 1711 Composition 1) (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 Composition 1) (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 Composition 1) (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 1) (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. (Recommendation(s): READ 0722 Reading 2 with a grade of “C” or better, ENGL 1711 Composition 1 with a grade of “C” or better, or appropriate assessment score.) (MnTC: Goals 2 & 6) 3C/3/0/0

#### **ENGL 2775 Science Fiction and Fantasy**

This course will explore science fiction and fantasy through close and comparative readings of various texts. Together we’ll consider how the writers of these genres respond to the various challenges of the twentieth century, including shifting gender, politics, war, and the impact of new technologies on culture. This course will largely be concerned with the twin goals of articulating the writer’s critique of present social conditions and exploring how those critiques are constructed. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (MnTC: Goals 2 & 6) 3C/3/0/0

**ENGL 2778 Urban Literature—Lost in the City**

This course explores contemporary literature in the context of the urban landscape. Together, we'll explore the function of the city in literature with attention to how characters both shape and are shaped by an urban existence. Also, how do various writers portray the city? As a labyrinth? A market place of cross-cultural encounters? A place of refuge? A dystopia? Through close and comparative readings, we'll construct an informed understanding of how and why a city is portrayed by a particular writer and to what degree the city itself functions as a meaningful character in literature. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of "C" or better) (MnTC Goals: 2 & 6) 3C/3/0/0

## ■ English for Speakers of Other Languages (ESOL)

**ESOL 0725 High Intermediate Reading and Vocabulary**

This course introduces non-native English speakers to academic reading skills at the high intermediate level. Students learn how to identify main ideas and details, use pre-reading strategies, increase reading speed, and interpret graphs and charts. Students also build their vocabulary through the study of word parts, the academic word list, and other strategies. The use of library resources, dictionaries, and online materials are also emphasized. This is a required course. (Prerequisite(s): Appropriate assessment score) 4C/3/1/0

**ESOL 0735 High Intermediate Speaking and Listening**

This course introduces non-native English speakers to academic speaking and listening skills at the high intermediate level. This course helps students improve their ability to understand native speakers and to express themselves correctly and confidently in a variety of everyday and academic situations. Students use new vocabulary and apply grammar skills to make presentations, participate in group discussions, take lecture notes, and participate in a variety of audio and video activities. This course also helps students improve their pronunciation. Regular use of the multimedia language laboratory is part of this course. This is a required course. (Prerequisite(s): Appropriate assessment score) 4C/3/1/0

**ESOL 0745 High Intermediate Writing and Grammar**

This course introduces non-native English speakers to academic writing skills at the high intermediate level. Students will improve their ability to write clear, correct sentences and well-organized paragraphs. Students study basic verb forms, verb tenses, and other grammar structures. Then, they apply this grammar knowledge in a variety of writing situations and formats. Students become familiar with the writing process and online materials. This is a required course. (Prerequisite(s): Appropriate assessment score) 4C/3/1/0

**ESOL 0750 High Intermediate Integrated Skills**

This course provides high-intermediate level non-native English speakers with an opportunity to integrate, apply and practice the language skills and concepts they are learning in their ESOL skills courses. The reading, writing, listening, speaking, vocabulary, and grammar skills introduced in the other courses are applied in various types of projects and presentations focusing on specific themes. Integrated skills courses focus on developing critical thinking skills and using appropriate language to express ideas and demonstrate content knowledge in a college setting. This is a required course. (Prerequisite(s): Appropriate assessment score and either completion of or concurrent enrollment in ESOL 0275, ESOL 0735, ESOL 0745) 3C/3/0/0

**ESOL 0820 Pronunciation and Articulation**

This course is designed for ESOL students who need to improve their pronunciation, articulation and intonation skills. The emphasis is on the technique of sound production, enunciation, rhythm, volume, and pitch through modeling and extensive drilling. Students will reduce their accent and acquire more confidence when they speak. Students at any level are accepted, no prerequisites. 1C/0/1/0

**ESOL 0825 Advanced Reading and Vocabulary**

In this course, non-native English speakers continue to develop their academic reading and vocabulary skills at the advanced level. Students continue to analyze main ideas and details, use pre-reading strategies, increase reading speed, and interpret graphs and charts. Students further develop their general and academic vocabulary through the study of word parts, the academic word list, and other strategies. The use of library resources, dictionaries, and online materials are also emphasized. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of ESOL 0725 with a grade of "C" or better) 4C/4/0/0

**ESOL 0835 Advanced Speaking and Listening**

In this course, non-native English speakers continue to develop their academic speaking and listening skills at the advanced level. Students will listen to academic lectures and online media, participate in academic discussions, deliver presentations, and give oral summaries. Students will learn note-taking skills and appropriate communicative strategies for the U.S. college classroom. Use of correct grammar, clear pronunciation and academic vocabulary will be reinforced throughout the semester. Regular use of the multimedia language laboratory is part of this course. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of ESOL 0735 with a grade of "C" or better) 4C/4/0/0

**ESOL 0840 ESL for Working Adults**

This intermediate level ESL course is designed for working adults interested in improving their English skills. This course integrates all four skills with the emphasis on grammar and reading. Grammar concepts are introduced in context, and accuracy is developed through extensive oral and written exercises. The topics of study include themes of high interest. Students will also write short stories and make brief presentations related to the topics of study. This course is not part of the Intensive English Program. (Prerequisite(s): Appropriate assessment score) 3C/2/1/0

**ESOL 0845 Advanced Writing and Grammar**

In this course, non-native English speakers continue to develop writing skills and grammar accuracy at the advanced level. This course helps students improve their ability to write clear, correct sentences and well-organized paragraphs and essays. Students study advanced sentence and grammar structures and then apply this grammar knowledge in a variety of writing situations and formats. This course also emphasizes the writing process, basic research skills, and the use of online materials. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of ESOL 0745 with a grade of "C" or better) 4C/4/0/0

**ESOL 0850 Advanced Integrated Skills**

This course provides advanced-level non-native English speakers with an opportunity to integrate, apply and practice the language skills, and concepts they are learning in their ESOL skills courses. The reading, writing, listening, speaking, vocabulary, and grammar skills introduced in the other courses

are applied in various types of projects and presentations focusing on specific themes. Integrated skills courses focus on developing critical thinking skills and using appropriate language to express ideas and demonstrate content knowledge in a college setting. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of ESOL 0750 and either completion of or concurrent enrollment in ESOL 0825, ESOL 0835, ESOL 0845) 3C/3/0/0

## ■ Floor Covering

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### **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/1/1/0

### **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/0/1/0

### **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/1/2/0

### **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/1/2/0

### **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/1/2/0

### **FLRC 2420 Introduction to Power Tool Safety**

Covers assorted power tools common to the floor covering trade and their safe application and use. (Prerequisite(s): FLRC 1522-2410 or equivalent) 2C/1/1/0

### **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/1/2/0

### **FLRC 2510 Advanced Floor Covering**

General overview of the floor covering trade. The course is used as a testing tool of apprentice trade knowledge. 3C/1/2/0

## ■ Geography

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### **GEOG 1700 Physical Geography**

This course introduces students to the physical systems and features of the earth. It covers the distribution of, and the processes influencing, world patterns of climate, vegetation, and land forms. The class also focuses on the influence of human activities on environmental systems. (MnTC: Goals 5 & 10) 3C/3/0/0

### **GEOG 1720 Human/Cultural Geography**

This course covers the geographic study of the world cultural areas. Topics include: world population growth, distributions, migrations, characteristics, cultural geography (patterns of language and religion, folk customs, globalization of popular culture), global economic activity and development, and political organization of the world (evolution of states, territorial conflicts). Case studies from many parts of the world will be analyzed and key geographic concepts will be reviewed. (MnTC: Goals 5 & 8) 3C/3/0/0

### **GEOG 1730 Global Economic Geography**

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

### **GEOG 1740 World Geography**

This course covers the geographic study of the world including physical systems, features, and world cultural areas. Topics include physical systems, features, world populations, cultural geography, global economic activity and development, and the political organization of the world. (MnTC: Goals 5 & 8) 3C/3/0/0

### **GEOG 1750 Minnesota Geography**

In this course, students will explore Minnesota's regions. Topics covered include: people (culture, settlement patterns, and migrations), the physical landscapes (glacial landforms, soils, and waterways), land use (agriculture, manufacturing, urbanization, etc.), geopolitical issues, and economics. (MnTC: Goals 5 & 10) 3C/3/0/0

## Health

### HLTH 1410 Medical Terminology

Students recognize and build medical terms after learning the meaning of their component parts. A computer lab may be utilized to review terminology and provide practice in word building. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) 1C/0/1/0

### HLTH 1418 Somatic Practitioner: Business and Ethics

In this course, students will be introduced to different types of business and ethical standards in the somatic industries of massage therapy, personal training, esthetics and wellness in the massage therapy industry, and basic aspects of a business plan. Topics include scope of practice, certifications, legal requirements, equipment options, charting, time management skills and payment tracking methods. Principles of professional ethics and interactions with clients are integrated throughout the course. (Prerequisite(s): Declared major in Massage Therapy, Reflexology or Personal Trainer major) 2C/1/1/0

### HLTH 1420 Anatomy & Physiology

Assists the student in acquiring basic knowledge of body structure and function. Emphasis is on the healthy body. The content in this course provides the students with an understanding of common diseases. (Prerequisite(s): HLTH 1410 concurrent enrollment recommended) 4C/4/0/0

### HLTH 1421 Anatomy & Physiology for the Somatic Practitioner

Assist the student to acquire basic knowledge of body structure and function with a more detailed exploration of musculo/skeletal, nervous and endocrine system. Students also recognize and build medical terms. Basic concepts of nutrition and understanding of the digestive system will be explored. A thorough understanding of the sliding filament theory and types of muscle contraction will be explored. (Prerequisite(s): Declared major in Massage Therapy or Personal Trainer program) 4C/2/2/0

### HLTH 1422 Wellness Coaching

The major focal points of this course is to coordinate knowledge of exercises, lifestyle and nutrition through thoughtful assessment and inquiry, collaborative problem-solving and goal-setting, and safe, open and honest dialogue to assist clients in obtaining future wellness results. Students will learn to help future clients by providing instruction and mentoring, assist in setting goals and help define an action plan that is holistic in nature. Emphasis will be on practical application of working with clients. (Prerequisite(s): Declared major in Massage Therapy or Personal Trainer program) 4C/2/2/0

### 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. (Recommended: HLTH 1420 Anatomy & Physiology or BIOL 1740, or BIOL 2721. Also, physical ability to palpate the human body and willingness to view selected human cadaver videos are recommended.) 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 Rescuer and Healthcare Provider

This American Red Cross course teaches CPR and AED use for those with a duty to respond. Course meets CPR requirements for Nurses, Nurse Assistants, and other allied health professionals. It is accepted for certification by the National Registry of Emergency Medical Technicians (NREMT). Skills are demonstrated for basic life support: solo and two-person CPR for the infant, child, and adult; the use of bad valve masks (BVM's); obstructed airway management; and training in Automatic External Defibrillators (AED's) for victims of sudden cardiac arrest. Certification is valid for two years. 1C/1/0/0

### 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 gained through yoga practice. (Prerequisite(s): Discuss health limitations with the instructor. Details provided during the first class session.) 2C/1/1/0

### HLTH 1456 Yoga Relaxation Techniques

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 assess 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/1/1/0

### 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. (Grade of “C” or better in HLTH 1410 and HLTH 1420 is recommended) 2C/2/0/0

### HLTH 1465 Functional Holistic Nutrition

The focus of this class is to develop a solid awareness of nutrition; be able to utilize that awareness and make suggestions to somatic practitioner clientele in a legal and ethical fashion, as outlined by the National Association of Nutrition Professionals (NANP) associate membership. (Prerequisite(s): BIOL 1760 or HLTH 1460 or CULA 1480) 4C/2/2/0

### **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 1485 Therapeutic Exercise**

The focus of this course is the management of common, soft-tissue injuries through inhibitory techniques, bracing, taping, advanced stretching and corrective exercise techniques. Adaptive exercise for special populations such as geriatrics and pregnancy will also be discussed. (Prerequisite(s): HLTH 1425, PTRN 1410 recommended. Must be enrolled in the Massage Therapy or Personal Trainer program.) 5C/0/5/0

### **HLTH 1490 Personal Fitness 1**

The major focal points of this course is to create ground frame knowledge of personal fitness including strength, endurance and flexibility for the betterment of individual health. Functional strength training, Active Isolated and Dynamic stretching and aerobic exercise options will be examined and performed. Individuals will create their own personal fitness plan and implement that plan during open Fitness Lab hours. 1C/0/1/0

### **HLTH 1491 Personal Fitness 2**

This class builds on the concepts discussed and experienced in Personal Fitness 1. Concepts of periodization planning will be discussed and implemented. A holistic approach to personal fitness will ensue with a discussion of healthful living including grocery shopping concepts and stress management concepts. 1C/0/1/0

### **HLTH 1540 Introduction to Techniques for the Yoga Instructor**

Practice of proper techniques of asanas, paranyamas, kriyas, chanting, mantra, meditation and other traditional yoga techniques. These hours must be a mix between analytical training, how to teach, and practice techniques and guided practice of the techniques themselves. 3C/1/2/0

### **HLTH 1542 Teaching Methodology for the Yoga Instructor**

Includes principles of demonstration, observation, assisting/correcting instruction, teaching styles, learning styles, qualities of a teacher and the business aspect of teaching yoga. Will include practicum of practice teaching, receiving feedback, observation of others and assisting while others teach. 3C/2/1/0

### **HLTH 1560 Internship for the Yoga Instructor Course**

These hours are to be distributed on an individual basis among the categories as determined by the Instructor. 3C/0/0/3

### **HLTH 1900 Pathology for the Somatic Practitioner**

This course is designed to teach the study of deviations from normal anatomy and physiology as well as basic pharmacology. Students will examine injury and disease related conditions most likely to be encountered in a somatic 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. (Recommendation(s): HLTH 1420) 4C/3/1/0

## **Health Unit Coordinator**

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### **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, medical terminology, basic human structure, diseases and disorders. 4C/4/0/0

### **HLUC 1510 Processing Physicians' Orders 1**

Designed to develop student skills in reading and processing physicians' orders. Students will be given hands-on applications in the processing of physicians' orders. It will include procedures for processing of orders related to patient diets, supplies, treatments, activities, nursing observations 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 same semester as HLUC 1510 and 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 facility. The student will complete this experience at the internship facility. Students will be required to fill out a background study and submit a current immunization record. (Prerequisite(s): Completion of all HLUC courses with a "C" or better and instructor approval) 3C/0/0/3

## **History**

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### **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. 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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 8) 3C/3/0/0

**HIST 1745 U.S. History 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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 7) 4C/4/0/0

**HIST 1746 U.S. History Since 1865**

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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 7) 4C/4/0/0

**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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (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. Within this chronological framework, the course examines how women understood their lives as individuals and as members of families and communities. The course also explores strategies through which women of diverse races, classes, and ethnicities struggled to control their own lives and identities. Special focus is given

to how ideologies of gender, race, class and sexuality framed American society and culture. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (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. (Recommendation(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 9) 3C/3/0/0

**HIST 2780 Special Topics in History**

This course explores special topics in history not offered in other standard history courses. Topics will vary and provide learning experiences that meet the needs of students and premajor course requirements in history. Credits will vary by semester, between 1 and 3. (Prerequisite(s): READ 0721 with a grade of "C" or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 7) Variable 1-3 credits

## ■ Hospitality Management

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**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 1421 Introduction to Tourism**

This course explores the travel and tourism industry. Students will examine growth trends that include best travel options and working with foreign cultures and currencies. 2C/2/0/0

**HSPM 1430 Introduction to Sports Management**

This introductory course will provide an overview of the business of sports. Topics include sponsorships, game administration, and stadium and arena operations. Emphasis will be placed on the principles of management and marketing and exploration of career opportunities. 3C/3/0/0

**HSPM 1440 Event Management and Planning**

This course will provide an overview of Event Management. Topics include identifying the purpose of special events, planning timelines, organization, managing volunteers, evaluation, invitations and logistics. Emphasis will be placed on the principles of management and marketing and how they apply in event planning. Career opportunities in event planning will also be explored. 3C/3/0/0

**HSPM 2410 Entertainment Management**

An introductory course in the management of the entertainment industry. This course will explore the world of entertainment including: music, theater, and all areas of the performing and visual arts. Students will examine how the arts industry uses the principles of management to operate a successful entertainment organization. 3C/3/0/0

### **HSPM 2420 Hotel and Lodging Operations**

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 2472 Management of Youth Sports, Recreation and Fitness**

This course utilizes and applies the functions of management (organize, plan, lead and measure) to youth sports, programs, recreation and fitness centers. Topics include youth sports programming, camps, and coaching, scheduling, recreation and fitness center operations. 3C/3/0/0

### **HSPM 2476 Sports Marketing and Promotions**

This course examines the application of the principles of marketing to the sports and entertainment fields. This includes the marketing of sports organizations, as well as how corporations and other organizations utilize the sports and entertainment industry to market and build customer relationships. Topics include sponsorship packages, ticket sales, media relations, luxury box and suite sales and special promotions. 3C/3/0/0

### **HSPM 2478 Sports Facilities Management**

This course applies the functions of management to operating sports and recreation facilities. A variety of venues will be explored including arenas, stadiums, fitness centers, playing fields and golf courses. Topics include facility design, maintenance, security, budget and financial management. 3C/3/0/0

### **HSPM 2591 Hospitality, Sports and Entertainment Management Internship**

This course provides students the hands-on opportunity to work in the hospitality industry. Variable 1-3 credits

## ■ Human Resources

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### **HMRS 1400 Human Resource Management**

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 1490 Talent Management**

This course provides students with a basic understanding of the employment and staffing functions in an organization. Attention will be devoted to the recruitment process, effective interviewing, applicant evaluation techniques, legal requirements, reference checking, and new employee orientation. This course also covers basic information about the training and development functions in an organization and its role in building an effective workforce. Students study effective training techniques including needs assessments, transfer of training, training evaluation, training methods, technology in training, and employee development issues. Students will be expected to develop and deliver a training session. 3C/3/0/0

### **HMRS 1510 Human Resources Information Systems and Records**

Covers basic information on, and an 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 Strategic Human Resources**

This course explores the strategic role that HR professionals have within an organization. Students will explore various HR functions and learn how to turn them into strategic business solutions by using critical thinking and problem solving strategies. Students will also look at how trends in HR outsourcing are used as an HR strategy. 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 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

## ■ Humanities

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### **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 (roughly the 16th Century to the Present). 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**

Students will be introduced to American film as an art form and as a medium of cultural communication. 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, Capra, Welles, and Hitchcock are examples of works to be studied. The course will offer representative examples of the major film genres and styles, including comedy, the western, film noir, and others. (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

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**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 their maintenance. 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

## ■ Interdisciplinary Studies

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**INTS 1797 Honors Special Topics**

In this course, a variety of strategies will be used to provide an in-depth study of the Phi Theta Kappa Honors Topic and leadership development for work and life roles. (Prerequisite(s): GPA of 3.5, PTK member, Honors program member or instructor permission.) Variable 1-4 Credits

**INTS 1798 Honors Colloquy**

Students in this course will study the current Phi Theta Kappa Honors topic through speakers, discussion sessions, reaction papers and student projects. Students will discuss current issues and related topics. The course may be repeated for credit. (Prerequisite(s): GPA of 3.5, PTK member, Honors program member or instructor permission.) 1C/1/0/0

**INTS 1799 Honors Seminar**

In this course students will discuss the current Phi Theta Kappa Honors Topic and explore the content using a variety of applications, technology and strategies. Current issues and related topics will be addressed. The course may be repeated for credit. (Prerequisite(s): GPA of 3.5, PTK member, Honors program member or instructor permission.) 1C/1/0/0

## ■ International Trade

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**INTL 1400 Introduction to International Business**

Introduces the student to the general field of international business. 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 1512 Export Shipping and Compliance**

This course 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 document, 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. Export compliance issues will be discussed. 3C/3/0/0

**INTL 2420 U.S. 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. Import compliance will also be discussed. 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 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 that 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 find 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/3/0/0

## **■ Interpreter/Transliterators 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 the Sign Language Interpreter/Transliterators Program) 3C/3/0/0

### **INTP 1442 Comparative English/ASL Grammar**

This course covers fundamentals of English grammar and writing and their relationship to the study of ASL and interpreting/transliterating. Topics include: parts of speech; prepositional phrases; simple, perfect, and progressive verb tenses; passive and active voice sentences; direct and indirect objects; predicate adjectives, predicate nouns, and predicate pronouns; fundamentals of English sentence structure; punctuation; capitalization; proofreading strategies; and grammatical aspects of English that create challenges for interpreters/transliterators. The course provides terminology and skill-building exercises which will enable students to: more clearly talk about and analyze aspects of English and ASL; more accurately evaluate their interpreting/transliterating work; identify non-standard English; and evaluate and develop their

use of spoken and written standard English. (Prerequisite(s): Completion of ASLS 1413 American Sign Language 3 with a grade of “C” or better) 2C/2/0/0

### **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, that 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 Sign Language Interpreter/Transliterators 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 interpreting process. Students compare American Sign Language and English semantic/syntactic structures to the consecutive interpreting process. Focus in 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) 4C/2/2/0

### **INTP 1513 Consecutive Interpreting 2**

This course builds upon Consecutive Interpreting skills to prepare students for the simultaneous interpreting 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 2410 Video Relay Interpreting/Video Remote Interpreting**

This course introduces students to Video Remote Interpreting and Video Relay Interpreting. It consists of the history of VRI and VRS as a field of professional practice. It covers the call opening, middle and closing, call management, special populations, cultural considerations, register, affect, current technology, ethical considerations, federal and state governing rules, and similarities and differences between VRI and VRS. Vicarious trauma, self care, and team interpreting topics will be included. Practical application will be made through real-time phone calls. Course content is at an intermediate to advanced level of complexity. (Prerequisite(s): INTP 2591 Interpreter Internship with a grade of “C” or better) 2C/1/1/0

### **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 preschool through post-secondary settings. (Prerequisite(s): Grade of “C” or better in INTP 1440 and INTP 1511) 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): INTP 1511 with a grade of “C” or better) 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 is a career-related, supervised work experience that integrates classroom theory and skills with real-life experiences; further develops skills and abilities initiated in program coursework; develops mentoring relationships and skills; identifies resources; expands application of ethical decision making and problem-solving; and prepares students for national certification and employment. (Internship Eligibility: Grade of “C” or better in INTP 2411, 2421, and 2431. Internship Placement: Grade of “C” or better in Performance Skills Evaluations in INTP 2412 Sign to Voice 2, INTP 2422 Voice to Sign 2 and INTP 2432 Transliterating 2) 6C/0/0/6

## ■ Ironworker

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**IRON 2611 Ironwork Shop 1**

This course covers the proper and safe use of height access equipment commonly used in the construction industry, the care and use of fiber line and wire rope as they are utilized for safe rigging practices, an explanation of metal or pre-engineered buildings, safety harness fit up, powder actuated tools and various metal cutting methods. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

**IRON 2612 Ironwork Shop 2**

This course covers basic methods of placing concrete reinforcing steel, fit up and alignment of structural and the use of Oxy-Acetylene cutting equipment as it applies to the steel erection industry. (Prerequisite(s): Students may be approved by the Ironworkers Advisory Committee) 2C/1/1/0

**IRON 2613 Ironwork Reinforcing**

This course covers reinforcing steel hoisting and placement in concrete construction and its applications in footings, beams, joists, slabs and walls. Welded rebar splices are described. Basic engineering requirements relative to actual placing requirements will be stressed. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

**IRON 2614 Ironwork Structural and Rigging**

This course covers the safe and proper techniques for all phases of structural steel erection, including basic coverage of various types of hoisting equipment and cranes of all types. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

**IRON 2620 Ironworkers Safety Education**

This course covers apprentice safety training in the areas of CPR/First Aid & OSHA 10 hour (covering introduction to OSHA, personal protection, materials handling, tools-hand and power, electrical, scaffolds, fall protection, occupational health, confined space, welding and burning protection, and steel erection). 1C/0/1/0

**IRON 2623 Ironwork Post Tension Bridges and Tower Cranes**

This course covers the practical applications and theory of post tension and prestressed concrete members, plate slabs, beam/girder slabs and bridge construction. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### **IRON 2624 Ironwork Ornamental and Basic Cranes**

This course covers the assembly and/or the erection of typical window, wall and curtain wall systems, the sealants used with those systems, the installation of metal roofing and wall cladding, also the installation and erection of miscellaneous metals such as stairs, handrail, steel curtain doors, entryways, etc. It also covers assembly, disassembly, component nomenclature, and attachments of increased capacity of cranes (Crawler, Truck, Gantry, Stiffleg, and Guy Derrick). (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### **IRON 2631 Ironwork Layout**

This course covers the layout and/or the establishment of dimensions on a construction site, the structure and its components using measuring devices including levels, transits, theodolites and laser instruments. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### **IRON 2632 Ironwork Blueprint Reading**

This course covers the use of architectural, structural, erection and detail blueprints as they apply to the steel erection industry. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### **IRON 2635 Ironwork Shop 3A**

This course covers safe rigging practices, pre-engineered metal building erection, interior and exterior sheeting, standing seam roof systems and powder actuated fastening systems and certification. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

## ■ Land Surveying Technology

### **LSUR 1401 Survey 1 – Fundamentals**

This course introduces basic land survey concepts in both classroom and field sessions. Students learn to operate automatic levels, total stations, data collectors, and survey grade GPS receivers. Subjects covered include survey history, measurement errors, jobsite safety, leveling surveys, distance measurement, angle and direction measurement, coordinate and traverse computations. 4C/1/3/0

### **LSUR 1402 Survey CAD & Computations 1**

This course is an introduction to using AutoCAD® and AutoCAD Civil 3D® for survey drafting and computations. This course is a companion to LSUR 1401 and should be taken concurrently. Topics covered include points, surfaces, survey computations, and parcels. 4C/1/3/0

### **LSUR 1501 Survey 2 – Intermediate**

This course continues to reinforce basic land survey concepts, and add intermediate level concepts in both classroom and field sessions. Students get more practice with automatic levels, total stations, data collectors, and survey grade GPS receivers. Subjects covered include jobsite safety, measurement errors, mapping surveys, area and volume computations, GPS theory and operations, control surveys, grid coordinate systems, horizontal and vertical curves. (Prerequisite(s): LSUR 1401 and 1402, or instructor's permission) 4C/1/3/0

### **LSUR 1502 Survey CAD & Computations 2**

This course covers more advanced topics in AutoCAD Civil 3D® and survey computations. This course is a companion to LSUR 1501 and should be taken concurrently. Topics covered

include alignments, profiles, grading, material quantity calculations, corridor assembly, and cross sections. (Prerequisite(s): LSUR 1401 and 1402, or instructor's permission) 4C/1/3/0

### **LSUR 1505 Occupational Internship**

In this course, the student works for a public or private organization, as an entry-level technician, in land surveying or related career fields. It is usually taken between the first and second year of the program. Students receive on-the-job training through full time employment. Grades are based on student prepared reports of their work experiences. (Prerequisite(s): completion of first year of program or instructor's permission) 3C/0/0/3

### **LSUR 2401 Survey 3 – Advanced**

Students survey a control network using total stations, digital leveling, and GPS. They adjust the survey with least squares software and prepare a formal report of the survey results. Subjects covered include jobsite safety, measurement errors, and GPS theory including coordinate systems and geodetic heights. (Prerequisite(s): LSUR 1501 and 1502, or instructor's permission) 4C/1/3/0

### **LSUR 2402 Survey CAD & Computations 3**

This course continues with advanced topics in AutoCAD Civil 3D® and other survey computation programs. This course is a companion to LSUR 2401 and should be taken concurrently. Topics covered include plan production, pipe networks, advanced labels and tables, least squares adjustments. It also introduces GIS concepts and use of GIS software from a survey perspective. (Prerequisite(s): LSUR 1501 and 1502, or instructor's permission) 4C/1/3/0

### **LSUR 2501 Property Surveys**

Includes concepts of real property ownership, the US Public Land Survey System, land descriptions, principles of boundary retracement, and ALTA/ACSM land title surveys. Students perform research on a variety of land parcels and participate in field exercises on boundary monument recovery. (Prerequisite(s): LSUR 2401 and 2402, or instructor's permission) 4C/1/3/0

### **LSUR 2502 Site Design & Platting**

Subjects covered include Minnesota platting laws and ordinances, at state, county and city levels. Students prepare several preliminary plats and plans and take them through a simulated approval process. They then prepare several final plats and again work through a simulated approval process. (Prerequisite(s): LSUR 2401 and 2402, or instructor's permission) 4C/1/3/0

## ■ Machine Tool Technology

### **MTPP 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): MTPP 1430 Engineering Drawings/CAD) 2C/1/1/0

**MTTP 1416 Machine Tool Technology Theory (360 multi-institutional)**

This course covers measurement, precision tools, band saw theory, lathe theory, drills and vertical milling machines. 2C/2/0/0

**MTTP 1419 Introduction to CNC Machining (360 multi-institutional)**

This online course is an introduction to CNC machining. Topics included are the History of CNC, the Cartesian coordinate system, and CNC program structure using G and M codes. Coursework will focus on programming, set-up procedures and machining processes for CNC milling and drilling operations. The course will utilize immersive engineering virtual software that will allow learners to set-up and verify programs online. 3C/3/0/0

**MTTP 1420 Introduction to Manufacturing Processes**

This course includes a general orientation, an overview of careers, shop safety, measurement, precision tools, band saw theory, lathe theory, drills and vertical milling machines. 5C/5/0/0

**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/1/1/0

**MTTP 1426 CAD**

Fundamentals of creating pictorial and orthographic blueprints using computer assisted software (CAD software). SolidWorks software will be used in this class. Knowledge of blueprint reading is necessary. 3C/3/0/0

**MTTP 1427 Introduction to SolidWorks**

This introductory course will use SolidWorks as the CAD software of instruction and application. Basic construction of solid modeling, engineering draws and assemblies will be covered. Basic knowledge of blueprints is recommended. 3C/3/0/0

**MTTP 1428 Introduction to CNC Machining**

The focus of this basic level course is CNC processes. Topics include the history of CNC machining, the Cartesian coordinating system, machining basic and CNC mill and programming. Course is web enhanced with assignments and exams online. 3C/3/0/0

**MTTP 1429 Machine Tool Print Reading**

(360 multi-institutional) Fundamentals of reading blueprint drawings. 2C/2/0/0

**MTTP 1430 Engineering Drawings/CAD**

Fundamentals of reading drawings and the use of CAD to produce orthographic, auxiliary and assembly drawings. 5C/5/0/0

**MTTP 1431 Materials Processes 1**

This introductory lab course covers shop safety, bench work, power saws, drills, drill presses, lathe operations, vertical milling and basic surface grinding. 5C/3/2/0

**MTTP 1433 Mechanical Applications**

This course covers advanced tool room machining operations using vertical mills, lathes, surface grinders, and part inspection. (Prerequisite(s): MTTP 1434 or concurrent) 5C/3/2/0

**MTTP 1434 Materials Processes 2**

This course covers intermediate lathe, milling machines and surface grinding operations. Work efficiency and inspection of finished work will be emphasized. (Prerequisite(s): MTTP 1431 or concurrent) 4C/2/2/0

**MTTP 1521 CNC 1**

This course covers the basic operation and set-up skills using G & M code format. (Prerequisite(s): MTTP 1433) 3C/2/1/0

**MTTP 1522 CNC 2**

This course covers the set-up and operation of CNC machine tools. Also includes advanced NC/CNC programming and operation of machining and turning centers with an emphasis on Fanuc controls. (Prerequisite(s): MTTP 1521 CNC 1) 3C/2/1/0

**MTTP 1523 CNC 3**

This course covers the set-up, operation and programming of CNC turning centers. (Prerequisite(s): MTTP 1522 CNC 2 or instructor approval) 3C/2/1/0

**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. (Prerequisite(s): MTTP 1430 Engineering Drawings/CAD) 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 2511 Mold/Plastic Technology**

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 1413, MTTP 1523, MTTP 2410, MTTP 2530) 5C/3/2/0

**MTTP 2513 Mechanical Systems/EDM**

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. This course will include additional theory and online assignments. (Prerequisite(s): MTTP 1413, MTTP 1523, MTTP 2410, MTTP 2530) 5C/5/0/0

**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 2521) 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 manufacturing processes necessary to produce and deliver desired product. (Prerequisite(s): MTTP 2514) 3C/0/3/0

### **MTTP 2519 Tool Design**

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 1413, MTTP 1521, MTTP 1522, MTTP 1523, MTTP 2410, MTTP 2412, MTTP 2530) 5C/5/0/0

### **MTTP 2521 Manufacturing Applications**

Product development fundamentals including design and research, cost estimating and manufacturing of a metal stamped product. This course will include additional theory and online assignments. (Prerequisite(s): MTTP 1413, MTTP 1523, MTTP 2410, MTTP 2530) 4C/2/2/0

### **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 1430 Engineering Drawings/CAD) 2C/1/1/0

### **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. Must earn a grade of “C” or better to proceed. (Prerequisite(s): Concurrent enrollment in, or previous completion of, HLTH 1410 and HLTH 1420 and declared Massage Therapy major) 4C/2/2/0

### **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 intake information. Must earn a grade of “C” or better in this course. (Prerequisite(s): MASS 1400 (with a grade of “C” or better)) 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. Must earn a grade of “C” or better in this course. (Prerequisite(s): HLTH 1425, MASS 1421 (with a grade of “C” or better) or concurrent enrollment) 4C/2/2/0

### **MASS 1423 Advanced Clinical Sports Massage 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 Isolated 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 1471 Reflexology 1**

This course will introduce the student to the core abilities of reflexology. The course includes the history and theories of reflexology and the basics of the hands-on application of reflexology as a consultative practice. The course will teach theory and skill sets necessary to build a reflexology service for the hands or feet. Modern Zone theory and the evidence of ancient reflexology practices will be explored. HLTH 1417 prerequisite or concurrent enrollment. HLTH 1410, HLTH 1420, HLTH 1425, HLTH 1900 are recommended. 3C/3/0/0

### **MASS 1472 Reflexology 2**

This course will introduce the skills needed to successfully practice reflexology on the hands and feet of the body. The anatomy and unique attributes of the feet and hands of the body will be explored. The student will learn to accept responsibility for the safe and effective practice of reflexology, appreciate theories and origins of reflexology, compare and contrast applications of reflexology, assess the rules for practice and comprehend the ethical and legal responsibilities of the clinical reflexologist. Reflexology is a consultative practice only and the student will understand the difference between consultative and prescriptive healing practices. Can be taken concurrently with MASS 1471. 3C/1/2/0

### **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. Must earn a grade of “C” or better in this course. (Prerequisite(s): MASS 1400 (with a grade of “C” or better) and concurrent enrollment in MASS 1422) 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. Must earn a grade of “C” or better in this course. (Prerequisite(s): MASS 1423 (with a grade of “C” or better), Instructor approval or completion of entire clinical massage curriculum and professional membership with ABMP including liability insurance. Students must have current CPR certificate and liability insurance on file at Saint Paul College before starting internship.) 3C/1/4/0

## ■ Mathematics

**MATH 0741 Math Fundamentals 1**

This course is designed for students who need to learn the basic principles of mathematics. Topics include whole numbers, fractions, decimals, and percents, applications of percents, 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 and percents, applications of percents, plane geometry, solid figures, graphs and simple statistical measures, integers, polynomials, and linear equations. (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 1411 Applied Mathematics**

This course is required for students in certain trade programs. It is designed to help students develop the numerical skills needed to perform tasks in their trade. Topics include whole numbers, fractions, decimals, percents, ratios and proportions, powers, roots, integers, polynomials, equations, plane and solid geometry, trigonometric functions, and word problems relevant to the trades. (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**

This course is intended for students who need to master the fundamentals of algebra. The topics include a review of the real number system, solving equations and inequalities, and their applications, graphing linear equations, solving systems of linear equations, and exponents and polynomials. (Prerequisite(s): Grade of “C” or better in MATH 0742 or appropriate assessment score) 3C/3/0/0

**MATH 1520 Intermediate Algebra**

This course is intended for 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 a review of solving equations and inequalities and their applications, exponents and polynomials, factoring polynomials, solving quadratic equations and their applications, rational expressions, rational exponents and radicals, and graphing functions (linear and quadratic). (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 1520 Intermediate 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 Intermediate Algebra 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 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 2749 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) 4C/4/0/0

### **MATH 2750 Calculus 2**

This course is a continuation of MATH 2749 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 2749) (MnTC: Goal 4) 4C/4/0/0

### **MATH 2753 Calculus 3**

This course covers surfaces, vector-valued functions, partial differentiation, multiple integration, and vector calculus. (Prerequisite(s): MATH 2750 Calculus 2 with a grade of "C" or better) (MnTC: Goal 4) 4C/4/0/0

### **MATH 2760 Ordinary Differential Equations**

This course presents the theory, computations and applications of first and second order differential equations and two-dimensional systems. A graphing calculator is required. (Prerequisite(s): MATH 2753 Calculus 3 with a grade of "C" or better) (MnTC: Goal 4) 4C/4/0/0

## **■ 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. The history of the medical laboratory science profession, and its scope of practice including lab practice areas and personnel will be discussed. In addition, the course will cover educational requirements, employment opportunities, certification, licensure, regulation and professional and patient codes of ethics. Must earn a grade of "C" or better in this course to proceed. 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 standard precautions, laboratory glassware and pipettes, microscopy, balances and weighing, specimen collection and processing, spectrophotometry, metric/chemistry math and solutions, and laboratory information systems. Must earn a grade of "C" or better in this course to proceed. (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, blood cell structure, identification, cell differentiation and other manual techniques. Students will employ a laboratory information

system to order tests and report results. Must earn a grade of "C" or better in this course to proceed. (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, special hematology procedures, and stains are correlated. Coagulation theory and laboratory procedures are covered in the course. Students will employ a laboratory information system to order tests and report results. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MDLT 1421) 4C/1/3/0

### **MDLT 1430 Urinalysis/Body Fluids**

This course covers basic urinalysis procedures used in 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. Urinalysis laboratory procedures are discussed, practiced and correlated with clinical conditions. Students will be introduced to the analysis of other body fluids used in clinical laboratory and will utilize an information system to order tests and report results. Must earn a grade of "C" or better in this course to proceed. (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. Students will employ a laboratory information system to order tests and report results. POCT procedures will be discussed and practiced. Must earn a grade of "C" or better in this course to proceed. (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 and maintenance of automated laboratory instruments will be taught. Students will test samples using a variety of automated analyzers. Students will employ a laboratory information system to order tests and report results. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): CHEM 1712 or concurrent enrollment and a grade of "C" or better in MDLT 1441 and HLTH 1410) 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, professionalism, the circulatory system, equipment, venipuncture, skin puncture and specimen transport/processing. Students will employ a laboratory information system to document specimen collection. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MDLT 1410) 1C/0/1/0

**MDLT 1451 Learning Lab 1-Introductory Skills**

This course reinforces the basic skills required for attaining proficiency in performing introductory medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of introductory MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 1C/0/1/0

**MDLT 1452 Learning Lab 2-Introductory Skills**

This course reinforces the basic skills required for attaining proficiency in performing introductory medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of introductory MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 1C/0/1/0

**MDLT 1453 Learning Lab 3-Intermediate Skills**

This course reinforces the basic skills required for attaining proficiency in performing intermediate level medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of intermediate MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 1C/0/1/0

**MDLT 1454 Learning Lab 4-Intermediate Skills**

This course reinforces the basic skills required for attaining proficiency in performing intermediate level medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of intermediate MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 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. Students will employ a laboratory information system to order tests and report results. Must earn a grade of “C” or better in this course to proceed. (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. Students will employ a laboratory information system to order tests and report results. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): BIOL 1740 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 a review of immunology concepts, blood group genetics, blood typing, blood group systems, antibody screening and identification, compatibility testing, donor selection, blood component preparation and usage and HDN. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): BIOL 1740 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. Must earn a grade of “C” or better in this course to complete the program. (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-Advanced Skills**

This course reinforces the basic skills required for attaining proficiency in performing advanced level medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of advanced MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 1C/0/1/0

**MDLT 2456 Learning Lab 6-Advanced Skills**

This course reinforces the basic skills required for attaining proficiency in performing advanced level medical laboratory procedures. It is designed to allow completion of hands-on skill activities and enhance practical aspects of advanced MDLT courses. The student will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Enrollment in MDLT Major courses) 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 students to refine lab techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking and independent work skills. Students rotate through hematology, chemistry, urinalysis, microbiology, immunohematology, 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 to assist them in their preparation for a national certification examination. 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 and clinical practice) 1C/0/1/0

## ■ Medical Office Careers

### **MEDS 1420 Health Information Foundations**

This course introduces the student to the health information management profession by covering topics fundamental to the field such as content, function, structure, and uses of health information, along with the health information profession itself. It covers prominent healthcare data sets, their purpose and use, as well as typical departmental functions associated with managing health information. An introduction of clinical vocabularies and classification systems is covered, as well as secondary data sources such as registries and indexes. Finally, students will learn the history, organization, financing, and delivery of health care services in the United States. 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**

This course provides an introduction to commercial, managed care and federal insurance plans, including medical claim form preparation and processing, as well as the reimbursement systems and prospective payment systems (PPS) used in the healthcare industry. Billing processes and procedures will be discussed and practiced including clean claims and denials and adherence to the National Correct Coding Initiatives. Chargemaster maintenance, regulatory guidelines, and reimbursement monitoring and reporting will be covered, in addition to compliance strategies. (Prerequisite(s): MEDS 1420) 2C/2/0/0

### **MEDS 1570 Human Disease**

This course provides basic information about major disease conditions affecting all the major body systems. Information about diagnostic, treatment, and surgical procedures is also included. Students will do in-depth research on selected disease conditions using Merck Manual and the Internet. They will review and analyze medical reports reflecting the disease conditions that are presented in class. (Prerequisite(s): MEDS 1480) 3C/3/0/0

### **MEDS 2430 Pharmacology for the Medical Office**

This course offers basic information about drug terminology, drug names (generic and brand), drug classes, and the use of drugs. Drugs frequently prescribed for common disease conditions will be reviewed by body system. Students will use electronic resources and text-based references such as the Physician’s Desk Reference (PDR) to look up detailed information about selected drugs that are being reviewed in class. (Prerequisite(s): MEDS 1480 with a grade of “C” or better) 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. (Prerequisite(s): MEDS 1420) 2C/2/0/0

**MEDS 2434 Legal and Ethical 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. (Prerequisite(s): MEDS 1420) 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. (Prerequisite(s): MEDS 1420) 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. Other topics include DRG's, compliance, over-coding and under-coding, complications and co-morbidities. (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. (Prerequisite(s): MEDS 1420) 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. (Prerequisite(s): All Required Coursework for the Health Information Technology AAS Degree with a "C" or better in all MEDS-prefix courses.) 3C/0/0/3

## ■ Music

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**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

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**NSCI 1710 Earth Science**

This course introduces students to topics in geology, oceanography, meteorology and astronomy. The solid earth and earth processes, the liquid hydrosphere and the gaseous atmosphere are studied, as well as the earth as a part of the solar system. It is intended for students interested in the natural sciences and can be used to fulfill the lab science requirement. Two hours of lab per week are required. Lab time will be used to reinforce lecture concepts and will include experiments, hands-on activities, and field trips. Traditional and web-enhanced sections are available. (MnTC: Goals 3 & 10) 4C/3/1/0

**NSCI 1721 Introduction to Geology**

This course introduces students to the fundamentals of Geology, including rock and mineral formation, geologic time, global tectonic processes such as earthquakes and volcanoes, and earth surface processes that change our landscape. Current issues relating to Geology, such as global climate change and energy resources will be addressed as well. Two hours of lab per week are required. Lab time will be used to reinforce lecture concepts and will include experiments, hands-on activities and field trips. (MnTC: Goals 3 & 10) 4C/3/1/0

**NSCI 1730 Introduction to Oceanography**

This course introduces students to basic scientific principles of oceanography. Topics covered will include the geological, biological, atmospheric, and chemical processes at work in the oceans, as well as contemporary issues related to marine pollution and resource use. Course includes lab-like learning activities. Traditional and online sections are available. (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. Course includes lab-like learning activities. Traditional and web-enhanced sections are available. (MnTC: Goals 3 & 10) 3C/3/0/0

### **NSCI 1750 Natural Disasters**

This course introduces students to the investigation of the physical processes, origins of natural disasters and human and economic impacts caused by natural disasters. Content covered will include earthquakes, volcanoes, severe weather, climate change, wildfires, floods and other catastrophic phenomena. Course includes lab-like learning activities. Traditional, online and web-enhanced sections are available. (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. Course includes lab-like learning activities. (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. Course includes lab-like learning activities. (MnTC: Goals 3 & 10) 3C/3/0/0

### **NSCI 1780 Contemporary Issues in Science**

With the completion of the human genome project and the rapid pace of advances in modern biology and medicine, there are many important ethical and scientific issues that touch our daily lives. In this course we will focus on contemporary issues such as: stem cell research, gene therapy and genetic testing, environmental toxins, climate change and energy resources, and emerging diseases. Students will learn the basic scientific concepts that are necessary to understand each issue and will explore many ethical dilemmas surrounding each issue. Course includes lab-like learning activities. Traditional and online sections are available. (MnTC: Goals 3 & 9) 3C/3/0/0

### **NSCI 1782 Minnesota Geology**

This course surveys Minnesota's geological history, from exploring the formation of the bedrock more than 2 billion years ago to the current processes that shape the land usage in this State today. Students will learn about the many ways the state's geology contributed to the economic, environmental and political development. Topics include: geologic time, plate tectonics, rock and mineral identification, topographic and geologic maps, superficial processes, and environmental concerns. Through numerous field trips, we will look to the Twin Cities metro area to provide examples of many different earth and environmental processes, and to give us hands-on experience understanding how these processes work (glacial history, rock formations, caves and ancient ocean floor, rivers, and other geologic sites). Course includes lab-like learning activities. (MnTC: Goals 3 & 10) 3C/3/0/0

### **NSCI 2770 Natural Sciences Internship**

This course provides students with an opportunity to design and carry out a science research project under the supervision of a faculty advisor. The research report will be prepared using literature review, problem identification, procedural documentation, data collection, data analysis, findings, conclusions, and recommendations. Evaluation will be carried out by faculty teams and experts in the field. The course will also provide an opportunity for field study in an approved internship setting. Variable credits 1-4

## ■ Nursing Assistant/Home Health Aide

### **NAST 1111 Nursing Assistant & Home Health Aide**

This course introduces concepts of basic human needs, health illness continuum, and basic nursing assistant and home health aide skills. Skills are demonstrated in a supervised laboratory setting. (Prerequisite(s): Nursing Assistant Seminar and appropriate assessment score or grade of "C" or better in READ 0721) 4C/3/1/0

### **NAST 1112 Nursing Assistant-Clinical**

This course will give the student clinical experience in a long-term care facility. Completion of NAST 1111 and NAST 1112 will meet the state and federal criteria for employment in long-term care. The student must attend all hours of clinical. (Prerequisite(s): NAST 1111) 1C/0/1/0

## ■ Personal Trainer

### **PTRN 1410 Personal Training 1**

This course introduces the student to the major components of fitness analysis, basic exercise program design, and the skills necessary for teaching individual activities. Components of exercise physiology are included throughout. Must earn a grade of "C" or better to proceed. (Prerequisite(s): Must be enrolled in Personal Trainer program.) 5C/3/2/0

### **PTRN 1420 Personal Training 2**

This course explores advanced components of fitness analysis, functional training program design, and the skills necessary for teaching group activities. Components of exercise physiology are included throughout. (Prerequisite(s): PTRN 1410 (with a grade of "C" or better) and HLTH 1420) 5C/3/2/0

### **PTRN 1430 Functional Exercise Physiology**

The emphasis of this class is to prepare Personal Trainers to be Metabolic Testing Specialists. Exploration of the effects of various types of exercise on body systems complete with testing protocols will be performed. VO<sub>2</sub> max test, power tests, plyometric tests, Lactate testing, body fat testing, and speed testing will be performed. Progressions based on testing outcomes will be created. 3C/1/2/0

### **PTRN 1490 Personal Training Internship**

This course is the final component of the personal trainer curriculum that serves to integrate all materials learned in a practical setting. Students will be placed at various training facilities providing direct application of personal training techniques and methodologies. Must earn a grade of "C" or better in this course. (Prerequisite(s): Instructor approval or completion of entire personal trainer curriculum and current CPR certificate) 5C/0/5/0

## ■ 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; 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

### PHIL 1715 Philosophy of Scientific Reasoning

Do you ever wonder what the difference is between astrology and astronomy: Between alchemy and chemistry? Whether to believe any of the statistics you hear every day? How do we know what is science and what is pseudoscience? Are discoveries different from inventions? Can we say a hypothesis is true if we are less than 100% sure? In this course we discuss the questions above, and look at historical and contemporary case studies through short online films and text. We will compare statistical with casual reasoning and also distinguish between different kinds of research studies. Through online discussions and exercises, students will gain hands-on experience in evaluating and analyzing case studies in the physical, biological and social sciences. (MnTC: Goals 6 & 8) 3C/3/0/0

### 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 1722 Health Care Ethics

This course introduces basic ethical theories, principles, and decision-making guidelines used in health care ethics. It examines moral issues confronting health care practitioners, patients, and others involved in medicine. The course includes philosophical analysis of contemporary, moral decision-making on topics such as disclosure, confidentiality, human cloning, medical research, abortion, transplantation, allocation of

limited resources, cultural differences regarding medical practices, and euthanasia. The course is open to all students interested in health care ethics and is required for PN majors. (MnTC: Goals 6 & 9) 3C/3/0/0

### PHIL 1740 World Mythology

This survey course introduces students to myths from around the world: stories about gods, heroes and heroines, monsters, the workings of the universe, and how human beings fit in. Myths address various important questions people have, such as “why are human beings on the earth?”, “what is the best way to live a life?” and “why is there death?” We will look at how people have attempted to answer and make sense of these questions, as well as consider how these stories are a product of a particular culture and why they were so important to the people that produced them. We will also look at how they have continued to influence (Western) culture into the present time. (MnTC: Goals 6 & 8) 3C/3/0/0

### PHIL 1742 Greek and Roman Mythology

This survey course introduces students to Greek and Roman mythology: stories about gods, heroes and heroines, monsters, the workings of the universe, and how human beings fit in. Myths address various important questions people have, such as “why are human beings on the earth?”, “what is the best way to live a life?” and “why is there death?” We will look at how people have attempted to answer and make sense of these questions, as well as consider how these stories are a product of a particular culture and why they were so important to the people that produced them. We will also look at how they have continued to influence culture into the present time. (MnTC: Goals 6 & 8) 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 main practices and beliefs, scriptures, formative periods and historical development of these great religions. It will also include ways fundamental religious questions are answered and a critique of religion from a secular perspective. (MnTC: Goals 6 & 8) 3C/3/0/0

## ■ Physics

### PHYS 1720 Principles of Physics 1

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 everyday

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 1722 Principles of Physics 2**

This course is a continuation of PHYS 1720 Principles of Physics 1. It covers the waves and sound, electricity and magnetism, light and optics, and topics in modern physics. Lecture and lab. (Prerequisite(s): PHYS 1720 Principles of Physics 1) (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 in liberal arts and sciences, engineering, and other related science fields. Class includes lecture and lab. High School Physics is recommended. (Prerequisite(s): MATH 2749 Calculus 1 with a grade of "C" or better) (MnTC: Goal 3) 5C/3/2/0

### **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 in liberal arts and sciences, engineering, and other related science fields. Class includes lecture and lab. (Prerequisite(s): PHYS 2700 General Physics 1 with a grade of "C" or better) (MnTC: Goal 3) 5C/3/2/0

## ■ 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 1521 Basic Air Conditioning and Refrigeration**

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) 5C/0/5/0

### **PIPE 1531 Pipe Welding 2**

Basic course in arc welding on plate and pipe. (Prerequisite(s): Must be enrolled in Pipefitting pre-apprenticeship program) 2C/0/2/0

### **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 1715 Certified Pipe Welding Layout**

Students will learn pipe math layout for weld fittings. 3C/1/2/0

### **PIPE 1720 Certified Pipe Welding 1**

Students will learn welding safety and oxyacetylene welding and cutting. 2C/1/1/0

### **PIPE 1721 Certified Pipe Welding 2**

Students will be introduced to carbon steel arc welding on plate and pipe. 5C/1/4/0

### **PIPE 1722 Certified Pipe Welding 3**

Students will certify on carbon steel pipe and be introduced to Gas Tungsten Arc Welding on stainless steel plate and pipe. 5C/1/4/0

### **PIPE 1723 Certified Pipe Welding 4**

Students will certify on stainless steel pipe. 5C/1/4/0

### **PIPE 1730 Certified Pipe Welding Open Lab**

Provides an opportunity for additional certification tests practice as needed. 5C/1/4/0

**PIPE 2611 Gas and Gas Controls**

This course is intended to provide a fundamental understanding of the various gas-fired mechanical systems and gas controls associated with heating and air conditioning equipment. To include residential furnaces, rooftop units, unit heaters, makeup air units, and hot water boilers, In field troubleshooting techniques will be covered. (Prerequisite(s): Must be enrolled in the Pipefitters apprenticeship training program) 2C/1/1/0

**PIPE 2614 Boiler Systems**

This course is intended to provide the apprentice a strong foundation in stationary steam engineering, separate or combined low and high pressure and liquid systems. 2C/1/1/0

**PIPE 2615 Pipe Layout and Installation**

This course 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 2623 Apprenticeship Refrigeration & Air Conditioning**

This course covers applied refrigeration and air conditioning for first year pipe trade apprentices. The course focuses on the understanding of refrigeration theory and its application as it relates to the installation, operation, maintenance, troubleshooting, and repair of residential, commercial, industrial, and institutional refrigeration and air conditioning systems. A strong emphasis is placed on electrical theory, electrical application, electrical code, and electrical safety, as it applies to both low and high voltage circuits of air conditioning and refrigeration equipment. 2C/1/1/0

**PIPE 2626 Basic Service Applications**

This course is intended to provide a fundamental understanding of the various mechanical equipment and controls associated with heating and air conditioning equipment. Basic schematics, fundamentals of electricity and in-field troubleshooting techniques will also be covered. 2C/2/0/0

**PIPE 2627 Basic Electricity**

This course is intended to provide the apprentice a basic understanding of electricity. This course will combine both text and practical hands-on work. 2C/1/1/0

**PIPE 2628 Commercial Pneumatics**

This course is on learning control of modern air conditioning, ventilation, and heating equipment. Part of the course will be on design, service, and basic understanding of various air handling systems. Another part will be hands on pneumatic and electric controls. (Prerequisite(s): Must be enrolled in the Pipefitters apprenticeship program) 2C/2/0/0

**PIPE 2631 Industrial Pneumatics**

This course provides an understanding of instrumentation, controls and pneumatics for industrial, manufacturing and process plants. 2C/2/0/0

**PIPE 2632 Commercial Refrigeration**

This course encompasses electrical wiring diagrams electronic control theory and circuits related to the components used in the installation and repair of Refrigeration systems. Refrigeration mechanical components and related equipment and tools used for installation and repair. (Prerequisite(s): Must be enrolled in the Pipefitting pre-apprentice program) 2C/1/1/0

**PIPE 2635 Apprenticeship Pipe Science**

Basic understanding on electrical devices, circuits, and electric measuring instruments as they relate to the installation of mechanical equipment and piping systems. 2C/1/1/0

**PIPE 2636 Electrical Controls and Diagrams**

This course is intended to provide the apprentice a strong foundation in the fundamentals of electrical theory, terminology, and application. This information will provide the apprentice with a background for understanding the basic operation of various types of electrical circuits and equipment. 2C/0/2/0

**PIPE 2638 Computer Controls**

This course is designed to assist students in understanding computer concepts including the functions of the Internet and the Web. 2C/1/1/0

**PIPE 2641 Supervisory Training/Public Relations**

This course will cover both the METAL and the MENTAL aspect of the role of Foreman/Supervisor, as well as how to deal with both employers (management) needs and wants, and following the rules of labor unions, OSHA, demanding General Contractors and others. 2C/0/2/0

**PIPE 2642 Piping Design**

This course will introduce the fundamentals in the design of ASNE B31.1 Power Piping, material selection, and supports. The course will provide the UA Apprentice examples of applications of power piping codes, and proper piping material selection and installation. Classroom examples will be demonstrated on the fundamentals of ordering materials, calculating pipe hanger loads, flexibility analysis, design of expansion loops, cold springing, hanger selection and installation, hanger spacing and inspection, and reaction forces on piping systems. The course will provide hands-on experience in the installation of constant and variable spring hangers and proper piping installation practices. 2C/0/2/0

**PIPE 2643 Test and Balance of Systems**

This course covers the necessary steps for pipe trades apprentices and journeymen to start up, test, and balance heating, ventilation, and air conditioning systems. Students shall learn to test and balance systems by instruction and hands-on experience in measuring quantities such as pressures, temperature, the rates at which air and water are flowing, and electrical current and voltage. These measurements are then compared with corresponding quantities called for by the design specifications, and any necessary regulating is done to make actual measurements meet required values. 2C/0/2/0

**PIPE 2644 Oil Burners and Controls**

This is a course on gas and oil power burners and related control systems. The course will include flame safety controls and boiler controls. Also included will be different boiler and burner types and designs. 2C/0/2/0

### **PIPE 2645 Direct Digital Controls**

This course is focused on computer based electronic control systems that control a wide variety of heating, ventilating, air conditioning, refrigeration (HVACR) & other equipment installed in buildings which regulate environmental systems. 2C/0/2/0

### **PIPE 2651 Refrigeration Code**

This course is designed to prepare students for the City of Saint Paul Competency Card in refrigeration code. (Prerequisite(s): Must be enrolled in the Pipefitting pre-apprentice program) 1C/0/1/0

### **PIPE 2652 Oil Code**

This course covers the installation and repair of fuel oil burning equipment, storage tanks and piping systems. Codes governing the installation and start up and service of this equipment will be covered. The emphasis in this course will be to apply knowledge learned in this class to the safe and proper installation and service of equipment and to obtain a certificate of competency for this work. (Prerequisite(s): Graduate of Pipefitting day school program or pipefitting work experience) 1C/0/1/0

### **PIPE 2653 Gas Code**

This course covers the installation and repair of gas burning equipment and piping systems. Codes governing the installation and start up and service of this equipment will be covered. (Prerequisite(s): Graduate of Pipefitting day school program or pipefitting work experience) 1C/0/1/0

### **PIPE 2654 Hot Water Code**

This course is intended to provide the student with information on the proper and safe piping of hot water. (Prerequisite(s): Graduate of Pipefitting day school program or pipefitting work experience) 1C/0/1/0

### **PIPE 2655 Ammonia Code**

The purpose of this course is for registered Pipefitter Apprentices to learn and understand the Minnesota Department of Labor and Industry, High Pressure Piping and Code for Power Piping Systems. Registered apprentices shall also be instructed in the current proper piping practices for the installation of steam, hot water, oil, and ammonia refrigeration systems. 2C/1/1/0

### **PIPE 2656 High Pressure Steam Code**

The purpose of this course is for registered pipefitter apprentices to learn and understand the Minnesota Department of Labor and Industry, High Pressure Piping and Code for Power Piping Systems. Registered apprentices shall also be instructed in the current proper piping practices for the installation of high steam pressure steam systems. 2C/0/2/0

### **PIPE 2657 Advanced Boiler Systems**

Review of Hydronics heating and cooling systems. Introduction to boiler types, such as fire tube, water tube, condensing, and no condensing boilers. Students will understand hot water, low pressure steam, and high pressure steam boilers. Learning how to size pipe to attain delivery of desired BTU's to equipment. Discussion and understanding of the different burner fuel systems, as in natural gas, oil, propane, and electric. Students will understand burner ignition, and flame safety. Thorough coverage of pumps for HVAC systems, covering different types, i.e. positive displacement, and non positive displacement, pump installation, alignment, and repair. Pumping system calculations on pumping head & GPMs and pump curve analysis. 2C/0/2/0

## **■ Plumbing**

### **PLMB 2610 PreApprentice Plumbing**

This is an introductory course on the use of tools, materials and fittings used in the plumbing field. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/0/2/0

### **PLMB 2612 Job Safety & Health**

This course provides knowledge of jobsite hazards and work safety. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/1/1/0

### **PLMB 2614 Applied Math for Plumbing**

This course covers basic mathematics and practical application to plumbing. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2616 Plumbing Welding**

This is an introductory course in welding and the principles used in welding. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2617 Plumbing Welding 2**

This course is for apprentice and journeyman plumbers With prior experience in welding and the plumbing field who wish to upgrade their skills and knowledge. The student must demonstrate safe use of cutting and welding equipment. The student must meet with the Coordinator prior to registration for this class. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 1C/0/1/0

### **PLMB 2618 Basic Drawing**

This course introduces the student to basic concepts of drafting, blueprints and plan specifications used in the construction field. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2621 Plumbing 1**

This course introduces the student to basic scientific principles applied in plumbing. It will introduce the student to drainage and vent systems and the Minnesota State Plumbing Code. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2622 Plumbing 2**

This course covers proper pipe sizing and installation of piping systems, the installation of plumbing fixtures, appliances and methods used in the installation and repair of these systems. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2623 Plumbing 3 Gas Installations & Gas Controls**

This course introduces the student to fundamental principles of gas burning appliances and the service and repair of these appliances and systems. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2624 Plumbing 4 Commercial & Residential Service**

This course introduces students to tools and methods used in servicing and repair of plumbing systems in residential and commercial buildings. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

### **PLMB 2631 Plumbing Code 1**

This course covers the Minnesota State Plumbing code and looks at each section in detail. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/0/2/0

**PLMB 2632 Plumbing Code 2**

This course covers the Minnesota State Plumbing code and is a continuation of Plumbing Code 1. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/0/2/0

**PLMB 2633 Plumbing Code 3**

This course covers the Minnesota State Plumbing code and is a continuation of Plumbing Code 2. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/0/2/0

**PLMB 2634 Plumbing Code 4**

This course covers the Minnesota State Plumbing code and is a continuation of Plumbing Code 3. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 2C/0/2/0

**PLMB 2640 Advanced Blueprint Reading & Heavy Rigging**

Study of basic blueprint reading and layout and pipe drawings related to the plumbing field. This course also introduces the student to basic rigging. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/0/4/0

**PLMB 2650 Industrial Plumbing**

This is an introductory course to industrial plumbing work. It focuses on welding, rigging and materials used in industrial plumbing work. (Prerequisite(s): Must be enrolled in the Plumbing apprentice program) 4C/1/3/0

## ■ Political Science

**POLS 1720 Introduction to American Government**

This course provides an overview of the American political system. The course 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.

(Recommendation(s): READ 0721 with a grade of "C" or better or appropriate assessment score.) (MnTC: Goals 5 & 9) 3C/3/0/0

**POLS 1740 Introduction to World Politics**

This course introduces core themes, concepts, and debates in the study of international politics. We will focus on the causes of war and peace, terrorism, and the relationships between war and morality. This course will stress the development of critical thinking skills necessary for the practice of responsible citizenship in a global world. (Recommendation(s): READ 0721 with a grade of "C" or better or appropriate assessment score.) (MnTC: Goals 5 & 8) 3C/3/0/0

**POLS 1750 Introduction to Political Science**

This course focuses on fundamental ideas concerning how society ought to be organized. Political ideas to be studied include liberty, justice, equality, globalization, and democracy to name a few. One aim of the course is to assist students in developing their own political ideas in relation to current issues and events. We will seek to understand these ideas through reading, discussion and film. (Recommendation(s): READ 0721 with a grade of "C" or better or appropriate assessment score.) (MnTC: Goals 5 & 9) 3C/3/0/0

**POLS 1760 Modern Political Ideologies**

This course offers an examination of modern political theories and ideologies. Ideologies to be studied include liberalism, conservatism, socialism, libertarianism and environmentalism. We will explore how these ideologies provide a framework for responding to current issues and events, through reading, discussion and film. (Recommendation(s): READ 0721 with a grade of "C" or better or appropriate assessment score.) (MnTC: Goals 5 & 10) 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MATH 0742 or appropriate assessment score. HLTH 1410, HLTH 1420 or BIOL 2721, and BIOL 2722 SPCH 1720, 1730, or 1750, PSYC 1720, ENGL 1711, PHIL 1722, HLTH 1460. Must be accepted as a Practical Nursing major.) 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): PRNS 1420 and PRNS 2410 or concurrent enrollment, ENGL 1711, PSYC 1720, SPCH 1720, 1730, or 1750 PHIL 1722 and HLTH 1460) 5C/1/4/0

**PRNS 1491 Clinical 1**

In this course, Practical Nursing 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): Grade of "C" or better in PRNS 1420, PRNS 1430, PRNS 2410 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): Grade of "C" or better in PRNS 1491; 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. Must earn a grade of “C” or better in this course to proceed. (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. Emphasis will be placed on the unique needs of the geriatric client. Students will study the physiological 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, and skin disorders. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in PRNS 1420, PRNS 1430 and PRNS 2410 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, endocrine and reproductive systems. It includes commonly used preventive and therapeutic measures, as well as nursing management. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in PRNS 1491) 4C/4/0/0

### **PRNS 1530 Maternal Child Health**

This course teaches 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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in ENGL 1711, HLTH 1410, HLTH 1420 or BIOL 2721, and BIOL 2722 HLTH 1460, SPCH 1720, 1730, or 1750, PHIL 1722 and PSYC 1720. Must be accepted as a Practical Nursing major.) 2C/2/0/0

### **PRNS 2491 Integrated Nursing Practicum**

In this course additional topics and skills are taught that relate to the professional scope of practice for the graduate practical nurse as well as professional responsibilities and opportunities. Students will work in a clinical setting demonstrating the correlation of theory and skills expected of new Practical Nursing graduates. Must earn a grade of “C” or better in this course to complete the program. (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): READ 0721 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): READ 0721 with a grade of “C” or better 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

### **PSYC 1760 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. Specific emphasis will be placed on the ways in which an individual’s cognitive processes affect their emotions and behaviors, as well as their interpretation of social interactions. Topics include perception, attribution, socialization, attitudes, conflict, altruism, groups, power, conformity, prejudice, collective behaviors, and social movements. (MnTC: Goal 5) 4C/4/0/0

## ■ Reading

### READ 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/3/0/0

### READ 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 READ 0721 with a grade of "C" or better.) 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. Basic shop procedures will be taught through lecture, demonstration and shop practice. Practice on three basic positions is provided. 2C/0/2/0

### RWLD 1441 Bricklayer Welding 1

This course will include basic Oxygen Acetylene Cutting and Shielded Metal Arc Welding (SMAW) using E7018 1/8th inch electrodes in the flat and horizontal positions. (Prerequisite(s): Must be enrolled in the Bricklayers apprenticeship program) 1C/0/1/0

### 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 through 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 2621 Apprentice Pipe Weld 1

Pipe Welding 1 is a 2-credit class that meets for fifteen nights. The intent of the course is to teach uphill pipe welding. The weld procedure will be a 6010 root pass and a 7018 fill and cover pass. Six-inch schedule 40 carbon steel pipe will be the practice and test material used. Ninety percent of the class time will be spent in the weld shop and ten percent will be in a classroom setting with lectures and demonstrations. 2C/0/2/0

### RWLD 2622 Apprenticeship Pipe Welding 2

This course covers welding carbon steel pipe in position, cutting, beveling and prepping pipe, and proper line-up

technique prior to applying tack welds. Also covered is welding out pipe joint in various positions and proper and safe use of welding equipment. (Prerequisite(s): Must be enrolled in the Pipefitters apprenticeship training program) 2C/0/2/0

### RWLD 2623 Apprentice Pipe Welding 3

This is a course on welding carbon steel pipe in position. Areas covered include: cutting, beveling, and prepping pipe; proper line-up technique prior to applying tack welds; welding out pipe joint in various positions; and proper use and safety of welding equipment. (Prerequisite(s): Must be enrolled in Pipefitters Apprenticeship Training program.) The emphasis will be on the student having a basic understanding of pipe welding in position and how to set up and operate welding machines. They will also have the knowledge and eye-hand coordination to complete a carbon steel pipe weld in a fixed position. 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

### RWLD 2641 Ironwork Welding 1

This course covers shielded metal arc welding theories and applications for E6010 and E7018 electrodes. Emphasis will be on safe work habits and standard industry practices from light buildings (Metal-Pre-Fabricated/Engineered) to heavy buildings. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### RWLD 2642 Ironwork Welding 2

This course covers gas metal arc welding and flux core welding theories and applications. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### RWLD 2643 Ironwork Welding 3

This course is for the advanced student welder and covers weld testing procedures, inspection, welding codes, weld joint preparation and certification procedures using SMAW and FCAW welding processes. (Prerequisite(s): Students must be approved by the Ironworkers Advisory Committee) 2C/1/1/0

### RWLD 2660 Apprenticeship Pipe Welding 1 – Advanced

Upon completion of the course, the student/welder will know how to fit up, tack up, and weld out a set of pipe coupons in the 2G, 5G, and 6G positions. Additionally, the student/welder will know how to make a root repair, describe the numbers on the electrodes, give approximate weight of six-inch pipe, and be able to give the proper take-off dimensions for 90-degree and 45-degree weld fittings. Students will build on their knowledge and skills learned in Apprentice Pipe Welding 1. In addition, they will acquire the knowledge of tests parameters for ASME piping specs. 2C/0/2/0

### RWLD 2661 Apprenticeship Pipe Welding 2 – Advanced

This is a course on welding carbon steel pipe in position. Areas covered include: cutting, beveling, and prepping pipe; proper line-up technique prior to applying tack welds; welding out pipe joints in various positions; proper use and safety of welding equipment. Emphasis will be on the basic understanding of pipe welding in position, how to set up and operate welding machines, and eye-hand coordination to

complete a carbon steel pipe weld in a fixed position.  
(Prerequisite(s): Must be enrolled in Pipefitters Apprenticeship Training Program) 2C/0/2/0

#### **RWLD 2662 Apprenticeship Pipe Welding 3 – Advanced**

The student will be able to perform and heliarc pipe weld in 2, 5, and 6G positions. 2C/0/2/0

#### **RWLD 2663 Apprenticeship Pipe Welding 4 – Advanced**

Orbital weld procedure. Students will program a variety of orbital weld machines for various piping entities. Students will understand the equipment and where to acquire necessary information and materials for the correct procedures and applications required for oil refineries, nuclear power house, food grade and pharmaceutical industries. 2C/0/2/0

#### **RWLD 2670 Journeyman Pipe Welding 1**

An open lab course to provide opportunities for pipefitting apprentices and journeymen to practice the various types of pipe welding necessary for job opportunities, certification tests, etc. without having to enroll in a formal course with attendance and grade restrictions. 1C/0/1/0

## ■ Respiratory Therapist

#### **RESP 1411 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, physics, and 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 provided. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): Acceptance into the program major. Must be taken concurrently with RESP 1412) 2C/1/1/0

#### **RESP 1412 Respiratory Care Essentials Lab**

This course provides hands-on practice with equipment used in basic respiratory care. This will take place in a supervised lab. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): Must be taken concurrently with RESP 1411) 1C/0/1/0

#### **RESP 1510 Cardiopulmonary Pathophysiology 1**

This course is an introduction to the assessment and pathophysiology of the patient with cardiopulmonary 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): CHEM 1711, HLTH 1410, HLTH 1420, RESP 1411 and 1412) 3C/1/2/0

#### **RESP 1521 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, and adverse reactions associated with each therapeutic procedure are covered. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): CHEM 1711, RESP 1411 and 1412, HLTH 1420; Co-Requisite(s): RESP 1522, RESP 1540) 4C/3/1/0

#### **RESP 1522 Respiratory Care Therapeutics Lab**

This course provides demonstrations and hands-on practice in the use of equipment and procedures required for basic respiratory care therapeutics. This will take place in a supervised lab. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): Must be taken concurrently with RESP 1521) 1C/0/1/0

#### **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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): CHEM 1711, RESP 1411 and 1412, HLTH 1410 & HLTH 1420; Co-Requisite(s): RESP 1521 and 1522) 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): RESP 1411 and 1412, HLTH 1420; Completion of American Heart Association CPR Course "C." Co-Requisite(s): RESP 1521, 1522, and 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): RESP 1510, RESP 1520, RESP 1540, RESP 1591; 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. Must earn a grade of "C" or better in this course to proceed. (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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): RESP 1593, RESP 2470) 6C/0/0/6

#### **RESP 1596 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): RESP 1594) 5C/0/0/5

**RESP 2411 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. Must earn a grade of “C” or better in this course to proceed.

(Prerequisite(s): RESP 1510, RESP 1521, 1522, RESP 1540, RESP 1591; Co-Requisite(s): RESP 1592) 3C/1/2/0

**RESP 2412 Mechanical Ventilation Lab**

This course provides hands-on practice in the clinical application and safety of mechanical ventilation. This will take place in a supervised lab. Must be taken concurrently with RESP 2411 Mechanical Ventilation. Must earn a grade of “C” or better in this course to proceed. 1C/0/1/0

**RESP 2420 Cardiopulmonary Pathophysiology 2**

This course continues the study of cardiopulmonary pathophysiology. Emphasis is placed on specific obstructive, restrictive and hemodynamic abnormalities. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 2411, 2412, and 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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 2411, 2412, and RESP 1593) 3C/1/2/0

**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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 2411 and 2412) 2C/1/1/0

**RESP 2571 Advanced Clinical Life Support Simulation Training**

This course is designed to train health program students in advanced life support skills in a simulation lab setting. Students will demonstrate competencies on mock patients in the lab. Students will be videotaped while they perform skills. Training is according to American Heart Association Standards. Upon successful completion of the competencies, students will receive

cards documenting their training. Must earn a grade of “C” or better in this course to proceed. 2C/0/2/0

## ■ Sheet Metal

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**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 1415 OSHA 30 HR Training**

Students will be given information on fire, ladders, scaffolding, electrical, cranes and personal protective equipment. Students will be trained in welding shop, sheet metal shop and field safety practices. 2C/2/0/0

**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/2/2/0

**SMET 1520 Duct System Fabrication**

Covers the fabrication and assembly of various types of duct systems. 4C/1/3/0

**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/2/2/0

**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/1/2/0

**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

## ■ Sociology

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**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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 7) 4C/4/0/0

#### **SOCI 1720 Social Problems**

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: inequalities of race, class, gender, age, and sexual orientation, modern family issues, crime and violence, drugs, war and terrorism, global health, environmental factors affecting society and culture, poverty, and population growth. Critical thinking skills will be developed through class discussions, debates, and course assignments. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 7) 3C/3/0/0

#### **SOCI 1740 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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (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 operates in society and the influence of media messages in the areas of print media, recordings, radio, film, advertising, public relations, digital media and the Web. The course will emphasize basic definitions and the functions of mass media forms and practices; the impact of mass media on society; and major theoretical perspectives and research methods of society will be used to analyze various examples of media. Specific areas of discourse explored in this course may include racism, sexism, heterosexism, ageism, stereotypes, discrimination, violence, and crime. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 5) 4C/4/0/0

#### **SOCI 1765 Sociology of Crime and Deviance**

This course will offer students an introduction to the sociological study of crime and deviance. We will examine the major types of crimes, such as violent crime, property crime, cybercrime, white-collar crime, and organized crime. This course will cover major sociological theories used to explain crime and deviance. Students will also learn about the relativity of deviance, how power, social control, and labeling are used to socially construct definitions of deviance, and the consequences of being labeled deviant. Topics in deviance may include suicide, mental illness, obesity, body modification, substance abuse, and sexual diversity. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 7) 3C/3/0/0

#### **SOCI 1766 Juvenile Delinquency**

This course is designed to familiarize students with the sociological study of juvenile delinquency in the United States, while simultaneously cultivating an historical and international perspective on delinquency. Topics include the nature of delinquency, means of measuring delinquency, theoretical understandings of delinquency, societal influences upon and responses to delinquency, as well as the development of the juvenile justice system. (MnTC Goals: 5 & 9) 3C/3/0/0

#### **SOCI 1772 Introduction to Criminal Justice**

This course will introduce students to the major components of the American Criminal Justice System; specifically, the police, corrections and the courts. Students will discuss the various types of crime and how crime is measured. Additional topics may include: a brief history of crime and punishment, the development of the criminal justice system, causes of crime and victimization, styles of policing, levels of the court system, philosophies of punishment, juvenile justice and prison life. (MnTC: Goals 5 & 9) 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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 7) 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. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goal 5) Variable credits. 1-3C/1-3/0/0

#### **SOCI 2760 Sociology Through Film and Music**

This course will explore the connection between music and film and the social context in which they are created. Students will learn how to view a film and listen to music critically, to identify the social issues depicted in each format. Topics explored in this course may include racism, sexism, heterosexism, ageism, stereotypes, discrimination, violence, and crime. Major theoretical perspectives and research methods of society will be used in the analysis of films and songs. (Recommendation(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 7) 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. (MnTC: Goal 8) 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) (MnTC: Goal 8) 5C/4/1/0

### SPAN 1730 Intermediate Spanish 1

This course provides 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 of “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 SPAN 1730. The course provides 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

### SPAN 1790 Spanish for the Workplace

An introduction to basic Spanish conversational communication focusing on the specific context and situations of the workplace. The aim of this course is to achieve a basic level of proficiency in conversational Spanish to exchange information and perform basic everyday tasks. (MnTC: Goal 8) 3C/3/0/0

## ■ 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. Instructional methodologies instruct students on computer-mediated communication issues as well as international audience analysis and multi-cultural demands of interpersonal dyads. Students will first practice 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. Instructional methodologies instruct students on computer-mediated communication issues as well as international audience analysis and multi-cultural demands of public speaking venues. 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 Podcasting and Vodcasting Production Theories and Techniques

This course introduces students to the study and exploration of art, science, techniques and performance within today’s broadcast mass media. Students will view, study, and then place into practical application the production techniques within major media, while exploring the methods and styles of creative professionals. (MnTC: Goals 5 & 9) 3C/3/0/0

### SPCH 1746 Principles of Oral Expression

This introductory speech communication course explores the various principles of using the human voice as an instrument for effective expression of ideas, emotions and thoughts via the spoken word. By examining various components, which contribute to effective vocal expression, from a variety of cultures and diverse backgrounds, students gain a performance approach to the spoken word for literary interpretation, demonstrate the ability to conceive and create spoke word elements, as well as a greater understanding of differing points of view and related performance opportunities. (MnTC: Goals 1 & 6) 3C/3/0/0

### **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

### **SPCH 1770 Family Communication**

This course centers upon the human communication process from within the contextual dimensions of diverse family units. Elements of study include family patterns and functions, that drive communication, relationship development and its barriers, and family role definitions and functions. The course is designed to provide a sense of understanding of how a family communicates, and the forces which influence the family unit, from both the inside and outside of various family configurations. (MnTC: Goals 1 & 7) 3C/3/0/0

### **SPCH 1780 Gender Communication**

This course explores the many interconnected aspects of gender communication, enabling students to experience how gender, within communication and culture, creates, maintains, and changes interpersonal relationships. Communication contexts covered in the course will include family, friendships, education, the media, the workplace, and other markers of identity. (MnTC: Goals 1 & 7) 3C/3/0/0

### **SPCH 1781 Effective Listening**

This course provides an introduction to the most utilized human communication process, which is listening, and its function within effective communication. The areas of study include work within the key listening sets; interpreting, evaluating and understanding. Speaker and listener message variables related to comprehension are explored, such as audience response, interpersonal relationships and group decision making. Experts claim that few skills have more potential for facilitating so many important outcomes – better relationships, increased enjoyment of your surroundings, and personal and professional effectiveness. (MnTC: Goal 1) 3C/3/0/0

### **SPCH 1782 Organizational Communication**

This course provides a balance between theory and practical information about communicating for results in the workplace. Students will apply interpersonal communication skills they have learned to the world of work. Topics include: communication process, organizational communication, effective listening, nonverbal communication, overcoming obstacles to organizational communication, employment interview, small group communication and problem solving, and researching and delivering presentations in the workplace. (MnTC: Goals 1 & 7) 3C/3/0/0

## **■ Theatre**

### **THTR 1710 Introduction to Theatre**

This course introduces students to the study and exploration of theatre. Students will study the diversity of drama and explore the methods and styles of actors, directors, playwrights and designers. (MnTC: Goal 6) 3C/3/0/0

### **THTR 1720 Exploring the Theatre Arts**

This course provides an introduction to the study of the various forms of theatrical arts and sciences. Students will participate in dramatic readings, acting, improvisation, stagecraft, costuming, stage management, scenic design, dramatic analysis and related practicum of the business of theatre. Students will visit local productions to assist in their understanding of the activities of theatrical professionals. (MnTC: Goal 6) 3C/3/0/0

### **THTR 1730 Theatre Stagecraft and Production**

This course provides an introduction to Theatre Stagecraft and Production with units on acting, stage movement, set construction, painting, lighting, special effects, and scenic design, among other topics. Participation in current theatre production is required. This course may be repeated for credit. (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 1445 Truck Welding 1**

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

### **TRKM 1455 Truck Welding 2**

Continuation of skills developed in TRKM 1445. Includes advanced Arc and MIG welding techniques for frame repair in the trucking industry. Emphasis on safety procedures. 2C/0/2/0

### **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 use and job seeking skills will also be covered. 3C/1/2/0

## ■ Watchmaking

**WMCM 1200 Micro Mechanics - Filing 1**

In this course students will learn the fundamentals of the micro mechanical processes by and acquire 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. (Prerequisite(s): Must be accepted into the micromechanical major program.) 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. Can be taken concurrently with WMCM 1200. 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. Can be taken concurrently with WMCM 1200. 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. Can be taken concurrently with WMCM 1200. 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 and 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. (Prerequisite(s): WMCM 1203) 5C/2/3/0

**WMCM 1205 Micro Mechanics - Tool Making 2**

In this course students will 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. Can be taken concurrently with WMCM 1204. 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. (Prerequisite (s): WMCM 1205) 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. Can be taken concurrently with WMCM 1206. 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. Can be taken concurrently with WMCM 1206. 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. Can be taken concurrently with WMCM 1206. 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. (Prerequisite(s): WMCM 1209) 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. Can be taken concurrently with WMCM 1209. 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. Can be taken concurrently with WMCM 1209. 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. Can be taken concurrently with WMCM 1209. 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. Must be accepted into the Watchmaking Certificate Program. 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. Can be taken concurrently with WMCM 2300. 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. (Prerequisite(s) : WMCM 2301) 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. Can be taken concurrently with WMCM 2302. 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. Can be taken concurrently with WMCM 2302. 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. Can be taken concurrently with WMCM 2302 through 2304. 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

## ■ Welding Technology

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**WLDT 1410 Oxy-Acetylene Welding, Cutting & Brazing, Carbon Arc & Plasma**

This introductory course will cover shop safety practices, the theories and concepts necessary for an understanding of basic oxy-acetylene welding, cutting and brazing processes. Emphasis will be on safe work habits based on current industry standards. It will also cover carbon arc and plasma arc cutting. (Co-Requisite(s): WLDT 1420, 1430, 1440) 4C/1/3/0

**WLDT 1420 Intro to SMAW, Metallurgy & Welding Theory E6013 & E6010**

This course covers the introduction of the theories and concepts necessary for the SMAW process using both the E6013 and E6010 electrodes in the various welding positions, according to current industry standards. Instruction on the use, care and safety practices of SMAW equipment will also be emphasized. (Co-Requisite(s): WLDT 1410, 1430, 1440) 4C/1/3/0

**WLDT 1430 Intro to Blueprint & Measuring Devices**

This course is 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. This course also covers the use of different measuring devices used in the welding trades. (Co-Requisite(s): WLDT 1410, 1420, 1440) 4C/1/3/0

**WLDT 1440 Intro to Welding Certification & SMAW E7018**

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, allowing the student the opportunity to achieve certification. (Co-Requisite(s): WLDT 1410, 1420, 1430) 4C/1/3/0

**WLDT 1510 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. Students will be expected to work to industry standards for apprentice welders in the area of quality and efficiency. (Prerequisite(s): WLDT 1410, 1420, 1430, 1440; Co-Requisite(s): WLDT 1520, 1530, 1540) 4C/1/3/0

**WLDT 1520 Intro to GTAW – Mild Steel & Stainless**

Provides students with the opportunity to build proficiency in the GTAW process with mild steel & stainless in all positions. The student will be expected to work to industry standards for apprentice welders in the areas of quality and efficiency. (Prerequisite(s): WLDT 1410, 1420, 1430, 1440; Co-Requisite(s): WLDT 1510, 1530, 1540) 4C/1/3/0

**WLDT 1530 GMAW Spray & Pulse & Welding Certification**

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 or quality and efficiency. Weld testing procedures will be stressed, allowing the student the opportunity to achieve certification. (Prerequisite(s): WLDT 1410, 1420, 1430, 1440; Co-Requisite(s): WLDT 1510, 1520, 1540) 4C/1/3/0

**WLDT 1540 GTAW Blueprint Symbols, Weld Inspection & Welder Certification**

This course will focus on the knowledge of welding symbols as specified by the American Welding Society, (AWS). Welding inspection & welder qualification procedures will also be covered. (Prerequisite(s): WLDT 1410, 1420, 1430, 1440; Co-Requisite(s): WLDT 1510, 1520, 1530) 4C/1/3/0

**WLDT 2410 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 perform to industry standards as required for apprentice welders to achieve certification. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2420, 2430, 2440) 4C/1/3/0

**WLDT 2420 GMAW Core Wires & Welder Certification**

Designed to build proficiency in FCAW, FCAW-G, Metal Core and SAW processes. The student will be expected to perform to industry standards as required for apprentice welders. Weld testing procedures will be stressed, allowing the student the opportunity to achieve certification. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2410, 2430, 2440) 4C/1/3/0

**WLDT 2430 Areas & Volumes**

Covers the calculation of the areas (2D) and volumes (3D) of geometric figures for use in layout and cutting operations. The information & knowledge in these areas are essential for the success in the welder and fabricator trades. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2410, 2420, 2440) 4C/1/3/0

**WLDT 2440 Grinding & Finishing**

Designed to create an in-depth knowledge of abrasives and equipment used in the welding & fabricating industry. Students will gain proficiency in both grinding and high grade finishing on various base materials according to paint, food & pharmaceutical standards. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2410, 2420, 2430) 4C/1/3/0

**WLDT 2510 GTAW Aluminum & Welder Certification**

Provides students with the opportunity to build proficiency in the GMAW process using Aluminum sheet & plate in various weld positions. Aluminum numbering systems will also be covered. Students will be expected to perform to industry standards as required for apprentice welders. Students will have the opportunity to certify in the GTAW process. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2520, 2530, 2540, 2550) 4C/1/3/0

**WLDT 2520 Radan Drafting**

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. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2510, 2530, 2540, 2550) 2C/2/0/0

**WLDT 2530 Layout and Fabrication Practices**

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 using math formulas, bend allowances and measuring instruments as required for apprentices. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2510, 2520, 2540, 2550) 2C/2/0/0

**WLDT 2540 Shop Hand & Power Equipment**

Designed to build proficiency in the metal fabricating field. The student will be expected to work within industry standards for apprentice welders/fabricators. Assigned projects utilizing related skills not previously introduced are encountered in live work situations, using a variety of tools & fabrication equipment. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2520, 2520, 2530, 2550) 4C/1/3/0

**WLDT 2550 CNC Shop Equipment & Robotics**

Designed to build proficiency in fabrication skills beyond previous classes. The student will be expected to work within industry standards as for apprentice fabricators using hands on work projects. Introduction to Plasma Cutting (CNC), Press Break (CNC) & robotics (CNC) operations will be covered. (Prerequisite(s): Successful completion of Welding Technology Certificate or equivalent; Co-Requisite(s): WLDT 2510, 2520, 2530, 2540) 4C/1/3/0

## ■ Women's and Gender Studies

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**WGST 1785 Foundations in Women's Studies**

This course serves as an introduction to the field of women's and gender studies. Using an interdisciplinary approach, the course examines the conditions and circumstances affecting the lives of (primarily) women in the United States. The course explores the roles that women play in society, with careful attention to the ideas and factors that shape those roles. Students will examine how ideas about gender (as well as race, ethnicity, social class, sexual orientation, physical ability and age) are informed by institutions, cultural beliefs, and social practices. Throughout the course, emphasis is placed on the diversity of women's experience in contemporary United States and connections to women worldwide. (MnTC Goals: 5 & 9) 3C/3/0/0

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# Directions & Parking

Easy to Find. Easy to Get To.

## 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)

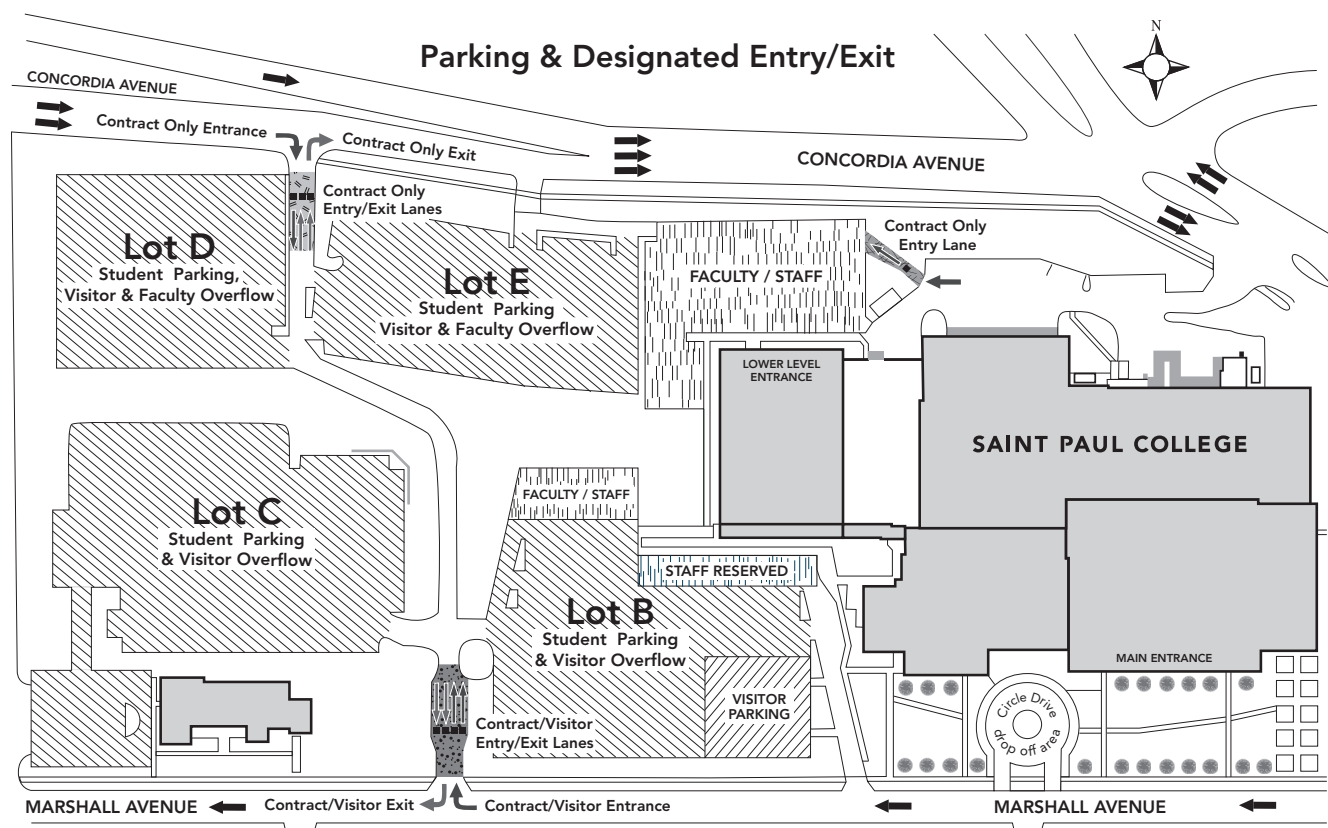
Take the Marion Street Exit, at the top of the exit ramp take a right onto Kellogg Boulevard. Turn right at traffic light onto John Ireland Boulevard. Continue to Marshall Avenue, turn right.

## Bus Information

Saint Paul College is also easy to reach by bus. Routes 12, 21, 65, 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

Daily registered visitor parking is available in the south-eastern corner of Lot B. Visitors should obtain a parking access ticket upon entering the parking access system from Marshall Avenue. Visitors should proceed to the Information Desk at the main entrance to register their vehicle in the visitor parking area. If the visitor parking area is full, visitors can park in any open, undesignated space in Lot B, C, D or E.



# Parking Information

## Parking Lots/Designated Parking Areas

For the most up-to-date information about the parking and fees, please see the college website: [www.saintpaul.edu/AboutUs](http://www.saintpaul.edu/AboutUs) and click on Parking Information.

### Parking Policy

It is mandatory for all motor vehicles parked on the Saint Paul College campus to use the controlled parking access system. Visitors can park in designated visitor parking spaces. Vehicles parked in handicapped parking spaces require a valid State-Issued Handicapped Permit. Parking in faculty and staff lots requires a registered parking tag. Parking tags allow for parking in designated campus parking lots or other parking areas within the lot. All violators will be ticketed.

### Regulations

All persons operating a vehicle on campus are responsible for being familiar with, and complying with, all traffic and parking regulations. A complete list of parking violations and parking policy may be obtained from the Office of Public Safety on the first floor. Saint Paul College assumes no liability for care of, damage to, and/or protection of any vehicle or its contents at any time while it is operated on or parked on the campus property. Possession of a parking access card neither reserves nor guarantees a parking space.

### SERVICE & COLLEGE VEHICLE Lot:

Service Lot is designated for Services Vehicle parking only. All vehicles in this area must be marked (Company Name and Working at the College) or they will be ticketed.

### Reserved Motorcycle Parking:

Motorcycle parking is located at the eastern end of Lot B along the guard rail.

### NO PARKING ZONES:

- Any space marked 24 Hour without a special permit.
- 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 circle drive. 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.
- No overnight parking.

### 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. You may appeal your citation within fifteen (15) business days from the date the citation was issued. Appeal forms are available at the INFORMATION 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 placed on your student record. If the ticket goes unpaid, a hold will be placed on your account and you will be unable to get a copy of your transcript or register until the fine is paid. Unpaid tickets will be processed through the college's normal collection process and the debt may be submitted to Minnesota Department of Revenue for collection.

It is mandatory that all motor vehicles parked on Saint Paul College campus use the parking access system to go in and out of the parking lot. For unpaid tickets where the vehicle is not registered with the school, a \$5.00 service charge will be added to the ticket to cover the cost of obtaining the registration information from the State of Minnesota.

# you're invited to visit our campus

Discover why we've been named the *#1 community college in the nation* by *Washington Monthly* magazine.

Tour our campus and attend a "Start Here" information session to learn about:

## Major programs

Discover more about our programs and get information on how we can help you meet your career goals.

## Classrooms, labs and facilities

Tour our state-of-the-art science labs, computer labs and hands-on facilities for programs like Auto Body Repair, Cosmetology and Culinary Arts.

## Financial aid

Find out how to apply for financial aid and where to go on campus for assistance.

## Faculty

Learn about our experienced and well-respected faculty who teach in our hands-on environment.

## Application to Saint Paul College

Find out what steps to take next to start the application process for admission to our College.

## Start your first two years of a 4-year degree

Learn about the career paths and educational choices available to you at Saint Paul College and how you can begin the first two years of a 4-year degree.



We'll answer your questions, guide you to all the right resources for your college decisions, and show you around campus to give you a closer look at your choice of programs. [www.saintpaul.edu/starthere](http://www.saintpaul.edu/starthere)

## "Start Here" session schedule

- Every Tuesday\* at 10:00am
- 1st & 3rd Wednesday\* of each month at 6:00pm

## Reserve your place today for a "Start Here" tour and information session!

To reserve your place at a "Start Here" session, go to our Web site at [www.saintpaul.edu/starthere](http://www.saintpaul.edu/starthere) and Sign-up online or call 651.846.1555.

Outside the Metro Area call 1.800.227.6029.

\*except holidays or when the College is closed.



**SAINT PAUL COLLEGE**  
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# Notes

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# Notes

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## 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](http://www.saintpaul.edu)

**General information:** 651.846.1600

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