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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, gender identity, gender expression, 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, gender identity, gender expression, 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 the Vice President of Student Affairs.

Refer to the Saint Paul College Student Handbook for important information that each student should read to assure success at the College.
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General Information .......................... 651.846.1600
TTY – Minnesota Relay  7-1-1 or  1.800.627.3529
Fax ............................................. 651.846.1703

Academic Divisions:
Career & Technical Education Division .......... 651.846.1320
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Veterans Educational Benefits .................. 651.403.4211
Vice President of Academic Affairs ............ 651.846.1333
Vice President of Student Affairs ............... 651.846.1333

College Calendar 2018-19

FALL SEMESTER
August 27, 2018 – December 21, 2018
Tuition Due Date ...................................... 8/06/18
FALL SEMESTER BEGINS .......................... 8/27/18
Final Date to Change Fall Semester Registration . 8/31/18
Labor Day Holiday – College Closed ............ 9/01 – 9/03/18
Saturday Classes Begin ............................. 9/08/18
Final Date to Withdraw for Tuition Adjustment* .... 9/24/18
Spring Semester 2019 Priority Registration Begins . 10/02/18
Current Students
No Classes ....................................... 10/18 – 10/19/18
Final Date to Apply for Fall Semester Graduation . 10/31/18
Spring Semester 2019 Registration Begins ........ 11/02/18
New Students
Veterans Day Holiday – College Closed ............ 11/12/18
Final Date to Withdraw to Receive “W” ............ Varies
Withdrawal date varies. Check online course schedule.
Thanksgiving Holiday – College Closed .............. 11/22 – 11/25/18
Saturday Classes End ................................ 12/15/18
FALL SEMESTER ENDS ............................. 12/21/18

SPRING SEMESTER
January 14, 2019 – May 17, 2019
Tuition Due Date ...................................... 12/19/18
SPRING SEMESTER BEGINS ......................... 1/14/19
Final Date to Change Spring Semester Registration . 1/18/19
Saturday Classes Begin ............................. 1/19/19
Martin Luther King Holiday – College Closed ........ 1/21/19
Final Date to Withdraw for Tuition Adjustment* .... 2/11/19
Presidents’ Day Holiday – College Closed ............ 2/18/19
Professional Development .......................... 2/19/19
Classes starting at or after 4:00 pm will be held.
Final Date to Apply for Spring Graduation .......... 2/22/19
Summer Term 2019 Registration .................... 3/01/19
All Students
Fall Semester 2019 Priority Registration Begins ........ 3/13/19
Current Students
Spring Break ...................................... 3/18 – 3/24/19
Final Date to Apply for Summer Graduation .......... 3/22/19
Fall Semester 2019 Registration Begins ............ 4/05/19
New Students
Final Date to Withdraw to Receive “W” ............ Varies
Withdrawal date varies. Check online course schedule.
Saturday Classes End ................................ 5/11/19
Graduation Ceremony 2018/2019 .................... 5/16/19
SPRING SEMESTER ENDS .......................... 5/17/19

SUMMER TERM
May 28, 2019 – August 2, 2019
Tuition Due Date ...................................... 5/06/19
SUMMER TERM BEGINS .......................... 5/28/19
Final Date to Change Summer Registration ......... 6/03/19
Final Date to Withdraw for Tuition Adjustment* .... Varies
Withdrawal date varies. Check online course schedule.
Independence Day Holiday – College Closed .......... 7/04/19
Final Date to Withdraw to Receive “W” ............ Varies
Withdrawal date varies. Check online course schedule.
SUMMER TERM ENDS .............................. 8/02/19

* Tuition refund is pro-rated for a complete withdrawal from the College.
Welcome to Saint Paul College

At Saint Paul College, our first priority is to provide students with an extraordinary education. One way we do this is to make sure that students study in the best learning environments and have the most up-to-date technology for them to use in their program labs, such as our Simulation Center in our new Health and Science Alliance Center.

Technology is part of every program we offer at Saint Paul College and upgrades keep our programs relevant. We are an award winning, technologically savvy campus, with computers and charging stations available throughout campus, free of charge to students.

Choose from over 100 degree, diploma and certificate programs Liberal and Fine Arts, Business, Career and Technical, Health Sciences, Service, and STEM programs. Our faculty are experts in their fields, and will challenge you and inspire you to excel in your chosen career and educational path.

I would like to personally invite you to visit our beautiful campus, to talk to our student ambassadors, staff and faculty and experience our campus community. Take a tour and see our classrooms, labs and hands-on training facilities, especially our new Simulation Center. You’ll feel like you just walked into a state-of-the-art hospital floor – you’ll get a feel for the hands-on training our health sciences students get.

I have long been an advocate for community and technical colleges - I started my college education at a two-year college, and that experience made an incredible impact on my life. I urge you to join the over 10,000 students who attend classes at Saint Paul College in any given school year, and experience the benefits of attending a community college.

No matter your journey, our primary concern is for you, the student, and our focus is on your success. That’s why our slogan “Start here. Go anywhere.” resonates with everyone!

On behalf of our faculty, staff and administrators, I want to thank you for considering Saint Paul College as your educational partner and your pathway to a bright future. We look forward to working with you each step of the way. Best wishes for success with your college plans and your personal goals.

Sincerely,

Rassoul Dastmozd, Ph. D.
President/CEO
VISION
Saint Paul College will be a leader in providing comprehensive life-long learning through innovative and quality-focused strategies and services.

MISSION

_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.

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 from: American Culinary Federation Education Foundation’s Accrediting Commission (ACFEF), Commission on Accreditation for Respiratory Care (CoARC), National Accrediting Agency for Clinical Laboratory Sciences, Accreditation Commission for Education in Nursing (ACEN), Accreditation Council for Business Schools and Programs (ACBSP), National Automotive Technicians Education Foundation (NATEF) and National Institute for Metalworking Skills (NIMS).

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.
Strategic Goals

GOAL 1: Provide an inclusive and welcoming environment that maximizes comprehensive high-quality learning programs and services.

Saint Paul College is student-centric, committed to excellence in teaching and learning, and offers a wide spectrum of support services, learning opportunities, and delivery methods in education to address learners’ current and future needs.

1. Provide seamless, comprehensive learning opportunities through innovative academic programs and services for diverse learners and development and recruitment of excellent faculty.
2. Apply technology to enhance teaching and learning to maximum effect.
3. Continually assess and improve academic programs, student services, student success and retention strategies, and instructional effectiveness and excellence.
4. Maintain current and pursue new national, regional, and professional accreditation.

GOAL 2: Expand opportunity and support to increase learner persistence and success.

Saint Paul College is dedicated to an integrated service philosophy that recognizes learners’ various identities and creates an inclusive environment to meet their needs.

1. Use multiple measures to holistically assess learners’ preparedness for college.
2. Collaborate interdepartmentally and with community-based organizations to provide support services and resources that promote learner success.
3. Implement processes consistently across all departments to foster learner persistence and success.
4. Partner with secondary and post-secondary institutions to increase educational opportunities for learners.

GOAL 3: To be the partner of choice for both business/industry and community based organizations by purposely strengthening these partnerships.

Saint Paul College is committed to meeting community and workforce needs of the region by fostering strong partnerships with businesses, industry, and community based organizations.

1. Promote the College as a key provider of high-quality, life-long learning for employment and/or transfer.
2. Provide continuing education, and short-term training, to meet workforce and community needs.
3. Build and sustain strong relationships/partnerships with alumni, local, state, regional, national and international businesses and other constituents.
4. Develop and expand outreach services and partnerships to support economic and community vitality.
5. Provide the business community with diverse, high-quality workforce talent.
6. Use formative and summative assessment tools to ensure programs and trainings are relevant to meet business/industry and partner needs.

GOAL 4: Optimize organizational innovation and development.

Saint Paul College strives to ensure a successful future through creative thinking, intentional partnerships, and the integration of quality professional development opportunities.

1. Build organizational capacity to better anticipate change, meet future challenges, navigate barriers, and create opportunities that foster innovation and responsiveness.
2. Cultivate a campus culture that encourages new ideas, engagement, and collaboration.
3. Inspire alternative instructional approaches and curricular innovation to meet the needs of our diverse and continuously evolving student base.
4. Effectively leverage technology to realize innovative ideas.
5. Commit resources to provide opportunities for creative development, improve learning and operations, and maximize organizational efficacy.

GOAL 5: Sustain financial viability during changing economic and market conditions.

Saint Paul College is committed to ensuring its long-term financial stability.

1. Make budget decisions that reflect priorities in core mission and fiscal stewardship.
2. Utilize sound financial management and assessment practices.
3. Decrease financial risk to the College by pursing new ways to promote student financial literacy.
4. Expand institutional fundraising to generate additional scholarships, grants, and to grow the College’s endowment.
5. Promote financial stability by analyzing and maintaining an appropriate academic program mix between Liberal Arts education and Career and Technical education programs.
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For information about Financial Aid, please refer to the Saint Paul College Student Handbook or website: saintpaul.edu/FinancialAid

Services for Students

For information about Services for Students, please refer to the Saint Paul College Student Handbook or website: saintpaul.edu/StudentServices

Student Life and Diversity

For information about Student Life and Diversity, please refer to the Saint Paul College Student Handbook or website: saintpaul.edu/StudentLife

Rights and Responsibilities

For information about Rights and Responsibilities, please refer to the Saint Paul College Student Handbook or website: saintpaul.edu/Rights&Responsibilities

Academic Standards

For information about Academic Standards, please refer to the Saint Paul College Student Handbook or website: saintpaul.edu/AcademicStandards

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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 from:

- American Culinary Federation Education Foundation’s Accrediting Commission (ACFEF)
- Commission on Accreditation for Respiratory Care (CoARC)
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
- Accreditation Commission for Education in Nursing (ACEN)
- 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 31 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 doctoral programs. Approximately 33,500 students graduate from Minnesota State Colleges and Universities each year. Refer to the System website www.minnstate.edu for further information.

Alliances and Memberships

Students, Alumni & the Employer Connection
Saint Paul College offers undergraduate programs of two years or less 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 an Alumni Association to complement the educational process. All Saint Paul College graduates are encouraged to join. Call 651.846.1469 or visit saintpaul.edu/Alumni 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.

Workforce Training & Continuing Education (WTCE)
The Workforce Training and Continuing Education division at Saint Paul College serves the non-credit educational and professional development needs of organizations and individuals in the greater metropolitan area. For over 20 years, Saint Paul College’s Workforce Training & Continuing Education division has delivered high quality workforce training and continuing education ranging from development of assessments to consulting with business to meet industry, government, non-profit organizations, entrepreneurs, and individual needs, resulting in recognized credentials that boost performance and career opportunities. We are committed to your organizational and individual success!

Workforce Training
Workforce training provides quality training programs delivered at your location, online or on campus. We assist businesses and organizations in staying informed and knowledgeable about advances and best practices pertinent to workplace skills, leadership, organizational sustainability, and business solutions. Training is provided in the format that best meets the needs of the client, for example:

- Offering over 100 unique courses through Web-based training.
- Presenting seminars on pertinent and timely topics for industry partners and individual professional development.
- Designing hands-on experiential workshops to promote application of newly acquired behaviors, attitudes, or skills.
- Enhancing skills or specific knowledge relating to career and professional development through continuing education courses.

Continuing Education
Continuing Education provides adult learners the opportunity to enroll in non-credit courses that build career related skills for personal or professional enrichment. Choose from online or classroom-based courses in a variety of fields and content areas.
Examples of training offered through WTCE:

- AutoCAD Training
- Business Management
- Business Writing
- Coaching
- Communication Skills
- Computer Applications
- Customer Service
- Entrepreneurship
- Esthetics Re-licensure & Training
- Health Care
- Leadership/Management
- Motorcycle Training
- Quality Assurance
- Safety
- ServSafe® Certification
- Software Training
- Supervisory & Management Training
- Welding
- Workers Compensation

All WTCE classes can be offered at your work site or custom tailored to meet your employees' needs. Call 651.846.1800 or visit saintpaul.edu/WTCE for more information.

ONE STOP

Admissions Process

Admission to the College is open to students who are at least sixteen years of age, have completed their high school diploma, GED, or equivalent, or meet Ability to Benefit requirements, and who are able to benefit from the educational offerings of the College. Admission to the College does not guarantee admission into a specific program or college-level classes. Clear and accessible information regarding college program admission requirements shall be provided in One Stop and in other locations. Academic, fiscal and facilities considerations may limit admission to a particular program. The exception to this policy relates to those Minnesota high school students who meet the requirements of the Post-Secondary Enrollment Options (PSEO) Act of 1985 (See Minnesota State Policy 3.5) or other special high school programs.

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 by meeting the prescribed admission requirements for the desired program. Some programs have a separate application process. For more information about specific majors, please check the Program Requirement Guides.

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 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 and Math or complete the English as a Second Language (ESL) Assessment if you are a nonnative speaker of English. Call 651.846.1553 for more information. Scores must be turned in to One Stop. A student may be exempted from taking this Assessment based on documentation of subject area test scores on the ACT exam. If you have taken the ACT or SAT test within the last five (5) years, please bring a copy of your scores to One Stop (Room 1300) 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 One Stop 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 One Stop Staff.

Intake Assessment

Research shows that students who enter courses at the level that best matches their background and abilities are more successful. Therefore, Saint Paul College and Minnesota State colleges and universities require assessment of basic academic skills. The assessment for those whose native language is English covers reading comprehension and mathematical computation. The assessment for students whose native language is not English is the English as a Second Language (ESL) assessment. You may be assessed in additional subjects for admission to selected programs or placement into certain courses.

The assessments are computerized and available on a walk-in basis in the Assessment Center -- room 3140 -- and usually take from 1 ½ to 2 ½ hours. Scores determine course placement. In some cases, assessment results may indicate that you may benefit from developmental coursework in reading, writing, grammar, and/or math, prior to entering your major program.

Students who want to review before taking the exam can access the following websites:

- www.testprepreview.com
- www.math.com
- www.khanacademy.com
- accuplacer.collegeboard.org
- www.testpractice.net
The assessment requirement may be waived depending on previous college experience and/or college coursework. Contact One Stop at 651.846.1555 to have previous college coursework reviewed for an assessment waiver. Please call 651.846.1555 for additional information about the assessment process.

**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 after the age of 12 months and against diphtheria and tetanus within 10 years of first registration, allowing for certain specified exemptions.

You must submit a statement indicating the month and year of each immunization when you register for classes, or no later than 45 days after the start of your first semester. Students born in 1956 or before are not required to provide information.

Students who graduated from a Minnesota high school in 1997 or later are also exempt.

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

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 the Dean of Health Sciences and Service Programs.

**Application Procedure for Transfer Students**

Students seeking admission to Saint Paul College based on previous college coursework should contact One Stop - Room 1300 651.846.1555 after completing the online application.

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 One Stop to apply for re-admission. To have assessment tests waived based on coursework completed at another institution, contact One Stop at 651.846.1555.

**Undeclared Students**

Undeclared students are not assigned an advisor and do not qualify for financial aid or veterans educational benefits. Some classes may be limited to students admitted to a specific major. If at a later date a 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 and want to change that major must complete the Change of Major Form at One Stop. 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 eligible Minnesota high school sophomores, juniors and seniors to take college classes for 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. Eligible students may attend either part-time or full-time. Tuition, fees and textbooks are provided at no cost to the student. For more information about the PSEO program, please contact the PSEO Coordinator at 651.846.1713. Please identify yourself as a PSEO student.

**High School Articulated Credit**

Articulated Credit affords high school students an opportunity to receive college credit in many subjects. Articulated Credit 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, articulated credit programs offer viable new options for high school students who want to connect learning with life. Programs are articulated between Saint Paul Public Schools and Saint Paul College. Consult a high school counselor for more information concerning Articulated Credit.

**Transfer of Credits from Other Institutions**

The College will review requests for transfer of credit from individuals who have completed coursework from other post-secondary institutions. Transfer credits accepted will appear on the Saint Paul College transcript and can be used to satisfy the program graduation requirements but will not be used to calculate the grade point average. Students seeking admission to the College who have attended another college or university and do not meet the College’s Satisfactory Academic Progress Standards must appeal for admission.

If you are interested in receiving transfer credit, you must request an official transcript from each institution attended be sent to Saint Paul College - Records Office. If you previously attended a Minnesota State college or university (excludes the University of Minnesota), the Records Office may be able to access your transcript electronically. Contact the Records Office to confirm the availability of a Minnesota State transcript. Each credit to be considered for transfer must be supported by an official transcript from the originating institution and must be approved by the Institution prior to the awarding of credit.
A student shall earn a minimum of 20 credits for all associate degrees at the College. The residency requirement shall be reduced to 12 credits for students transferring with at least 12 college-level credits from another Minnesota State institution and/or the University of Minnesota. One-third of the credits required for a diploma or certificate must be earned at Saint Paul College. At least one course must be completed at Saint Paul College in order to earn the Minnesota Transfer Curriculum (MnTC).

Students also may be eligible to transfer credit to the College through the following:

- AP - Advanced Placement Exams (for high school students)
- CLEP - College Level Examination Program
- Credit for Life Work/Work Experience (Prior Learning)
- IB - International Baccalaureate (for high school students)
- International Credentials
- Military - Related courses and experience

Transfer of Credit Policies
Transfer of credit and courses will be evaluated based on policies and procedures of the College, as outlined in the College's catalog, Minnesota State system policies and procedures, and according to Family Educational Rights and Privacy Act (FERPA).

Institution Accreditation
Transfer of credit will be considered for college level coursework completed at accredited institutions:

- Regionally Accredited: Degree-granting public, private, nonprofit and for-profit, two- and four-year institutions in the United States accredited by the Higher Learning Commission, (a Commission of North Central Association of Colleges and Schools) and/or parallel accrediting agencies in other regions of the United States.
- Nationally Accredited: Specialized institutions, including distance learning providers and freestanding professional schools recognized by the Council of Higher Education Accreditation (CHEA) and the U.S. Department of Education (USDE). Coursework will be considered on a course-by-course basis through an appeal process and will be judged to be comparable or equivalent to courses offered at Saint Paul College.

Transfer Course Evaluation
Courses will be reviewed and considered for transfer as follows:

- General education coursework completed at Minnesota State that fulfills the Minnesota General Education Transfer Curriculum (MnTC) will transfer based on the assigned goal area at the sending institution.
- General education coursework completed at the University of Minnesota or other institutions outside the Minnesota State system will be considered for transfer as:
  - Equivalent to a Saint Paul College general education course and MnTC Goal Area
  - Not equivalent to a specific Saint Paul College course, but will fulfill a MnTC Goal Area
- Coursework that is not general education will be considered for transfer as:
  - Equivalent to a specific course in a technical program (within five years of course completion, if in a technical program)
  - Elective credit that does not apply toward general education or technical course requirements (including technical courses over five years old)

Transfer Equivalency
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.

Transfer Appeal
If a credit transfer is denied, you may request an appeal. Appeal forms are available online. If you are not satisfied with the results of the appeal, you may appeal to the Vice President of Academic Affairs at the College. A third and final transfer appeal is available at the system level.

Transfer Grades
All college level courses in which a student has received a grade of A, B, C, D or P/S will be considered for transfer evaluation. No F or D- grade courses will be accepted. Please note that while D grades will transfer, some programs require a grade of C or higher for all courses to fulfill requirements.

Time Limit for Courses
General education courses shall have no transfer time limit. Additionally, technical courses applying toward an Associate of Arts (AA) 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 or certificate 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 Credit

AP—Advanced Placement Exams (for High School Students)
Advanced Placement (AP) 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. There is no limit to the number of credits a student may earn through the AP exams. However, credits earned through Advanced Placement will not satisfy the residency requirement for graduation 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. There is no limit to the number of credits a student may earn through the CLEP exam. However, credits earned through CLEP examinations will not satisfy the residency requirement for graduation at Saint Paul College. A student must provide the College with an official report of CLEP examination scores in order to obtain credit. Equivalent courses and required scores can be found on the College website at saintpaul.edu.

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 website 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.

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 may be awarded for scores of 4 or higher on individual IB examinations or successful completion of the IB diploma. Credit can be given for a specific college course if an exam covers substantially similar material. There is no limit to the number of credits a student may earn through the International Baccalaureate (IB) program. However, credits earned through International Baccalaureate (IB) will not satisfy the residency requirement for graduation at Saint Paul College.

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.

Military Education and Experience
Saint Paul College is an SOC (Servicemembers Opportunity College) and will consider academic credit for military education and experience gained while on active duty. The American Council on Education’s Guide to the Evaluation of Educational Experience in the Armed Forces will be used to evaluate military education and experience. A copy of the student’s Report of Transfer or Discharge (Form DD-214) and an official SMART or AARTS transcript are required for evaluation.

For more information on military transcripts, go to the American Council of Education website at www.acenet.edu and select “Military Students and Veterans” found under “Higher Education Topics.”

A maximum of 16 semester technical credits will be accepted as elective credits in transfer from military transcripts. General education credits satisfying the Minnesota Transfer Curriculum (MnTC) will be accepted beyond the 16 semester credit maximum. Students may petition for an evaluation of military credits believed to be equivalent to a specific program.

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.

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. A fee will be applied for the background check.
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 College Course Schedule is available online and contains a complete listing of classes that are available each semester. It is available approximately ten weeks before the beginning of the semester. The Course Schedule lists the courses, number of credits, class times, instructors’ names, room numbers and prerequisites. Please note this information is subject to change without notice.

Returning students in a declared major have registration priority. When planning for future courses you are encouraged to work with an Advisor or your program faculty. If you need help in making career decisions, you should make an appointment with the Director of the Career Services. Classes have limited enrollment. Closed classes are posted on the online course schedule.

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

A Registration Schedule is published on the College website for each semester and indicates assigned dates and times for registration. Students with an unpaid balance at the College or any other Minnesota State College or University will be unable to register for courses until all unpaid balances have been paid. Returning students have a variety of resources to assist with course selection, including Pathway Advisors, Degree Audit Reports, and Program Requirement Guides.

Registration Process for Current & Returning Students

1. Review Program Requirements Guide and Degree Audit Report (DARS) and meet with a Pathway Advisor. Select courses.
2. Login into your account to register online; or if assistance is needed, you may go to One Stop for online registration assistance.
3. Pay tuition online or print your fee statement and present it with payment at the Tuition Office before the posted due date. You will receive a paid fee statement upon receipt of payment. Refer to Tuition & Fees for details for payment options.

4. Purchase books and supplies.
5. Attend all courses for which you’ve registered.

Helpful Hint: Purchase your books prior to the start of class, either at the Bookstore or online at saintpaulcollegebookstore.com. This will help you to avoid the long lines at the Bookstore on the first day of the semester.

Adding, Dropping, or Withdrawing

Students bear primary responsibility for their Course Registrations. Students are responsible for canceling their registration by the due dates posted in the course schedule or to pay any balance due. To cancel registration, a student must login to their e-services account and drop their classes prior to the end of the designated drop/add period. Non-attendance is not a cancellation and students will be held responsible to pay any amount owed.

All students, including those receiving financial aid, will be assessed tuition and fees for the semester based on the number of credits for which they are registered on the 6th day of the semester.

Students may add courses at any time during the published “add” period for each semester. For a course that meets for the full semester, students who drop a course through the 5th day of a semester, may receive a tuition refund (pro-rated for summer semester). The refund schedule varies for courses that meet less than the full semester. Contact the Tuition Office for details on short courses. The add/drop and withdraw deadlines are listed on the course schedule.

Students may withdraw from courses to receive a “W” grade from the 6th day of the semester through the posted date of withdrawal for the semester. For courses that do not run the entire semester, withdrawal is permitted before 80% of the class session is over.

Students must withdraw from courses online in eServices. 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 end of the semester are subject to being assigned a grade of FW. Refer to the current online schedule in eServices for details regarding withdraw dates.

Students who cannot 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 in advance for all absences with their instructor. Students who miss class the first week without making prior arrangements with their instructor are subject to being assigned a grade of FN (Failure for Nonattendance). Students must drop courses they do not intend to attend before the end of the add/drop period.

Student Records

The Records Office is the official recorder of student academic records and progress.
Student Transcripts
Requests for Saint Paul College official transcripts are processed through the Records Office. All financial obligations to the College must be met before transcripts are released. An official transcript is issued for a fee upon written request or online submission from the college website: saintpaul.edu/student-services/Student-Records. The transcript serves as the official record of student effort while enrolled at the College. Requests are processed within three business days. There is an additional fee for next business day service.

Satisfactory Academic Progress Guidelines
Saint Paul College is dedicated to providing all students with the opportunity to reach their educational goals. Students who have completed at least six credits are responsible for maintaining an acceptable level of academic progress. The Satisfactory Academic Progress (SAP) standards define the GPA and completion rates students must meet.

To support their efforts to meet academic standards, students should attend class regularly and actively engage in the learning process. Students are also expected to monitor their own academic progress. The following standards are used to determine a student’s academic status at the end of a semester:

Grade Point Average (GPA) Requirement

- Students must successfully maintain a minimum 2.0 cumulative grade point average.

Completion Rate Requirement

Completion rates are calculated with the first attempted credit and for grades A, B, C, D, and P. Grades of I, F, FN, FW, and W are counted as attempted credits.

- Students must successfully maintain a minimum 67% cumulative completion rate.

Academic Warning

The first time academic standards are not met, the student will be placed on academic warning for the next semester of enrollment. Once the warning is issued, a hold is placed on the student's account. Students must complete the online Academic Warning Agreement Form to have their registration hold removed and are strongly encouraged to meet with their Pathway Advisor to develop a success plan to improve their academic standing. Students must earn a minimum 2.0 cumulative GPA and 67% cumulative completion rate while on a warning.

Academic Suspension

Students who fail to meet academic standards in their warning period will be placed on academic suspension for two semesters. All students placed on suspension must appeal to be reinstated. First-semester students who attempt six or more credits and earn grades of all Fs, FN's, and/or FW's will be immediately placed on academic suspension.

Appealing Academic Suspension

- Appealing Due to Extenuating Circumstances
  Students who believe they failed to achieve satisfactory academic progress due to extenuating circumstances may file an appeal prior to taking the required two semesters off. However, students must provide documentation supporting their claim of extenuating circumstances interfering with their ability to be successful in school.

- Appealing for Reinstatement After Serving the Required Two Semesters
  Students who have served their suspension period must appeal for reinstatement by completing the Suspension Appeal Packet, which can be obtained in One Stop or via the Saint Paul College website.

Academic Probation

Students with an approved appeal will be reinstated to the College on probationary status. Students will stay on probation and may continue to attend Saint Paul College if they receive a 2.5 GPA and 100% completion for the semester, even if they have not met the cumulative standards.

Once a student has met the cumulative standards (cumulative 2.0 GPA and cumulative 67% completion rate), they will be in good standing and no longer on probation. Students who do not meet the semester standard will be suspended again.

Academic Forgiveness Policy

The Academic Forgiveness policy is available only to students whose coursework was taken at Saint Paul College (formerly St. Paul Technical College). The policy is a one-time opportunity. 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 select the courses within the semester to be forgiven. Only Ds, Fs, FNs, FWs and Ws 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. The student cannot have been enrolled at Saint Paul College between qualifying terms.

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 select the courses within the semester to be forgiven. Only Ds, Fs, FNs, FWs and Ws 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. The student cannot have been enrolled at Saint Paul College between qualifying terms.

The student can obtain the Request for Academic Forgiveness at the Saint Paul College website.

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.
Satisfactory 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, the student will first be given a warning semester. If the student fails to meet either of the satisfactory academic progress standards during the warning semester, the student will be suspended from financial aid.

Students who have been suspended from financial aid due to these standards, may receive financial aid again after they have met the satisfactory academic standards or by successfully appealing the loss of aid. Appeal procedures for the loss of financial aid may be found online at saintpaul.edu/financialaid. If the appeal is approved, the student will be placed on probation until both standards have been met. Students bear primary responsibility for their own academic progress and for seeking assistance when experiencing academic difficulty. Students are encouraged to keep a file of their grades and transcripts.

Qualitative Standard

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

Quantitative Standard

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

Maximum Time Frame

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 the College count toward maximum time frame. 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.

Implementation

Academic progress is evaluated at the end of each semester. 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 semester will be evaluated at the end of the semester.

2. Any student who fails to meet cumulative GPA and completion rate satisfactory academic progress requirements for one semester will be placed on warning for the subsequent semester and will be notified by email. Financial aid may be received during a warning status.

3. A student on warning who fails to meet the required cumulative standards will be suspended from financial aid and notified by email.

4. Upon evaluation, if the College determines that it is not possible for a student to meet the minimum cumulative standards prior to completing a degree/diploma or certificate for their declared major, the student will be suspended from financial aid and will be notified by email.

5. A student who has exceeded the maximum time frame will be placed on suspension from financial aid and will be notified by email.

Suspension for Extraordinary Circumstances

The College may immediately suspend a student in certain circumstances, such as but not limited to:

- A student who was previously suspended and whose academic performance falls below acceptable levels during a subsequent semester
- A student who registered for but does not earn any credits for one semester by earning all FN/FW/F grades
- A student who demonstrates an attendance pattern that abuses the receipt of financial aid.

Financial Aid Appeals

A student who fails to make satisfactory academic progress and is suspended from financial aid has the right to appeal based on unusual or extenuating circumstances, which may include but shall not be limited to a death in the family, student’s injury or illness, etc.

Appeals Process

Appeals forms are available online at saintpaul.edu/financialaid. The appeal must include a thorough explanation of the circumstances that affected academic progress and complete “Financial Awareness” counseling on www.studentloans.gov. 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 semester. When GPA and/or completion rate requirements for the approved appeal semester are met, the student will remain financial aid eligible. If these requirements are not met for the semester and the student does not meet required standards, the student will be suspended from financial aid eligibility.
Probation

Students who have successfully appealed their suspension will be placed on probation for the next enrolled semester. If, at the end of that semester, the student has met the college's cumulative grade point average (2.0 GPA) and completion rate (67%) requirements, the student will be in good standing. Students who do not reach the college's cumulative grade point average and completion requirements, but have a semester GPA of at least 2.5 and course completion of 100% on probation for another semester of enrollment. Students who fail to meet cumulative or semester requirements for GPA and completion will be placed back on financial aid suspension.

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.

If you are a qualified senior citizen (over the age of 62) you may be eligible to attend classes at a reduced tuition rate. Refer to the current Course Schedule for details. Registration is allowed on a space-available basis beginning second class session. Senior citizens who register before the first day of the semester must pay full tuition and fees.

Student Fees

Course Fees Selected courses have additional course fees which can include, but are not limited to, charges for such items as: tools, books, materials and supplies retained by the student, liability insurance (clinical experiences), or special testing fees, etc. Course fees are listed in the Course Schedule displayed on the College website. To determine if a course has additional course fees, select the course from the semester course schedule and place cursor on the course title and click the link to view the course details.

Fees Charged Per Credit MSCSA (Student Association) Fee

The Minnesota State College Student Association fee, assessed to all students, provides for support of the statewide student association by providing training and development of campus leaders, and lobbying of student interests with the legislative and executive branches of the State of Minnesota as well as at the national government level. The MSCSA Fee is 35¢ per credit for the 2018-2019 school year.

Parking/Safety/Facilities Fee

This fee at the College covers costs associated with parking, safety, and facilities. The fee must cover all costs associated with the parking operations of the College. Parking Prices can be found on the College website at saintpaul.edu/parking.

Student Life Fee

These funds are for the support and development of Student Life groups, activities and functions.

Technology Fee

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

Other Fees

Late Fee

There is a late fee of up to $50.00 per semester fee charged to debtors who do not pay their account balance, in full, by the established deadlines. A hold will be placed on your account for any unpaid balance. This hold will prevent you from registering for classes.

Library Fine

Students who fail to return materials will be charged for all overdue library materials.

Non-sufficient Funds/Returned Check Fee

When checks are returned to the college, due to non-sufficient funds (NSF), account closure or stop payment a fee of $24.00 is assessed for each check.

Transcript Fee

There is a $5 charge for each academic transcript request. Allow three days for processing. An additional $5 will be charged for next business day service.

SPC Card Replacement Fee

The SPC Card provides multiple campus functions and is used as a photo ID, a parking access card and door access card. There is a $15 charge to replace a lost or stolen SPC Card.

All fees are subject to change.

Tuition Payment/Deferment Options

The full tuition and fees must be paid by the posted due date for the semester or classes will be deregistered. You may defer tuition and fees by any of the seven options below.

1. Online through your student account. Payment types accepted are Visa, MasterCard, Discover, or E-Check.
2. Make a payment at the Tuition Office during business hours. Payment types accepted are Master Card, Visa, Discover, cash, or check.
3. Mail your payment to the address below. (Please do not mail cash) Make sure to include your student ID number, name, and phone number. Mail your payment no later than five business days before tuition is due.
4. Saint Paul College Tuition Office
   235 Marshall Avenue
   Saint Paul, MN 55102
5. Drop your payment in the Tuition Office Drop Box located next to the tuition windows. Please include your student ID number, name, and phone number. Payments dropped after business hours will be processed the next business day.
6. Set up a payment plan through Nelnet Business Solutions. NBS is a third party tuition management company. For a fee they will set up a payment schedule and forward your payments to the Tuition Office. Allow at least one week prior to the tuition due date for processing.

7. Complete a Financial Aid (FA) application (FAFSA). Please allow two weeks for the Institutional Student Information Record (ISIR) to be received at the school. You are responsible for completing the full FA process.

8. Students who receive funding from scholarships, sponsoring agencies, or organizations will have their tuition deferred. Authorizations should be submitted using the Saint Paul College Authorization for Payment or a similar form that provides the same information. It is the student’s responsibility to ensure that the Tuition Office receives the proper authorization from the third party one week before the tuition due date.

For students registering or adding classes after the tuition due date, the tuition is due within 24 hours of adding classes. Invoices are not mailed. Students must check their account balance online and pay any balance due by the posted due dates on the academic calendar. Students should also check their Saint Paul College email accounts for tuition payment deadline reminders and informational announcements.

For further details on different payment options visit: saintpaul.edu/admissions/tuition-and-fees-payment-options. Students will be responsible for any balances remaining after financial aid, third party, and Nelnet payments have been finalized.

**Tuition Policy**

You are responsible for dropping the courses you do not wish to take. Please check your eServices account each day during the add/drop period to ensure your schedule is what you intend to take. You are financially and academically responsible for any registered courses. Non-attendance is not a cancellation and students will be held responsible to pay any amount owed.

**Non-Resident Tuition Status**

The College considers resident and non-resident students the same for tuition rate purposes.

**Non-Payment of Tuition**

Students who have not made payment or do not have a tuition deferment by the posted due date may lose their place in each registered class. Students who are not planning on attending should drop themselves from courses prior to the start of the semester. Students who have not deregistered are responsible for the unpaid balance. Refer to the current Course Schedule for details.

**Tuition Refund Policy**

**Refunds for Total Withdrawal from College**

If you withdraw from all courses, you may be eligible for a tuition refund according to the schedule below. You may submit the request online through your account or present an Add/Drop/Withdraw Form to One Stop by the noted due dates. Failure to attend class does not constitute withdrawal.

- **Withdrawal Period - Fall & Spring Semester Refund**
  - Prior to the 1st day of the semester ............... 100%
  - 1st through 5th business day of the semester .... 100%
  - 6th through 10th business day of the semester .... 75%
  - 11th through 15th business day of the semester ... 50%
  - 16th through 20th business day of the semester ... 25%
  - After the 20th business day of the semester ........ 0%

- **Withdrawal Period - Summer/Other Semester Refund**
  - Prior to the 1st day of the semester ............... 100%
  - 1st through 5th business day of the semester .... 100%
  - 6th through 10th business day of the semester .... 50%
  - After the 10th business day of the semester ........ 0%

**Refunds for Change of Credit Load**

No tuition refund will be made, nor will fees be reduced, by withdrawing from only part of your credits after the 5th business day of the semester.

**Refund Time Frame**

Refunds for tuition payments made by cash or check will be made to the student’s refund preference of direct deposit, check or BankMobile Vibe Account. 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 refunds paid by cash or credit card. A minimum of two weeks is required to process refunds for tuition and fees paid by check.

**Waivers**

The College may waive amounts due for the following reasons: employee benefit provided by bargaining agreement, death of a student, medical reasons, college error, employment related condition, significant documented personal circumstances, student leader stipends, course conditions, natural disasters or other situations beyond the control of the College. The College cannot waive the LeadMN student association fee. Contact the Tuition Office 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 an education. Financial aid comes in the form of grants (money that the student does not have to pay back), loans (money that the student must pay back) and college work-study (money the student earns through employment). Eligibility is determined from the results of the Free Application for Federal Student Aid (FAFSA).
As a student, you have the primary responsibility to pay for your 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 you meet your educational expenses. The Financial Aid Office determines Saint Paul College financial aid eligibility after receiving the FAFSA results and after processing all required documents.

The student must be admitted to a program/declare a major at Saint Paul College that leads toward a degree, diploma, or eligible certificate to be qualified to receive financial aid.

Financial Aid Definitions
- FAFSA - The FAFSA is the Free Application for Federal Student Aid, FAFSA. This is the application for all types of financial aid: grants, loans, or college work-study.
- Cost of Attendance - This is considered the cost of education at the College. It includes tuition, fees, a room and board allowance, books, supplies, a transportation allowance, and a personal expense allowance. It helps determine how much financial aid a student is able to receive during a semester of enrollment.
- Expected Family Contribution - An amount, determined by a formula called Federal Methodology, that indicates how much of the student and the student’s 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 the student’s ability to pay for school, the student should notify the Financial Aid Office.
- Financial Need - Financial need is the difference between the cost of attendance and the expected family contribution.
- 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

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 apply for the Federal Pell Grant by completing the FAFSA. Pell Grants vary from $400 per year up to the federally legislated maximum. Pell Grant recipients must be enrolled in an eligible program and must maintain satisfactory progress in their coursework.

Federal Supplemental Education Opportunity Grant (SEOG)
This program is designed for students who have exceptional financial need. Funds are limited. Eligibility is determined by the Financial Aid Office with priority given to students who apply for Financial Aid early.

Minnesota State Grant
A grant for Minnesota residents who are attending an accredited post-secondary institution, the award process is similar to the Pell Grant. Students apply by completing the FAFSA.

Minnesota Postsecondary Child Care Grant
This grant is for students who are Minnesota residents, have children ages 12 and under (14 and under, if disabled), 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 can request an application from the Financial Aid Office or online.

Work-Study Programs
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 are not to exceed the cost of attendance. Work study positions available on campus include tutors, office assistants, and lab assistants.

Loans
Loans are financial aid that must be paid back. You must complete online entrance loan counseling and a Master Promissory Note through Saint Paul College in order to apply for a loan.

Federal Direct Loans
Students can also receive help to meet their educational expenses by borrowing money from Federal Student Aid. Subsidized and Unsubsidized loans are available based on eligibility. Dependent first year students can borrow up to $5,500 per academic year. Upon completion of 30 credits toward program requirements, eligibility increases to $6,500 per academic year. Independent students are eligible for additional unsubsidized loans. All loans must have two disbursements. Loans accepted for only one semester will have a disbursement at the start of the semester and a second disbursement half-way through the semester.

PLUS Loan Program
The Federal Parent Loans for Undergraduate Students (PLUS) Loan Program for undergraduate students can be used by parents of dependent students who are in need of additional funds. The program allows parents to borrow up to the cost of attendance minus other aid. Parents must successfully pass a credit check to be eligible for a PLUS loan.

Private Loans
You are strongly encouraged to pursue the availability of free or lower-cost financial aid with the College’s financial aid office; however, private educational loans can bridge the gap between government programs and the cost of attendance. Eligibility is typically based on your credit score. You can only apply for these loans by contacting banks or other lenders.
Other Sources of Financial Assistance

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

- Division of Rehabilitation Services (DRS/DVR): www.deed.state.mn.us/rehab
- Minnesota Indian Scholarship Program: www.ohe.state.mn.us
- Veteran Benefits (VA): www.vba.va.gov/VBA
- Services for the Blind (SSB): www.mnssb.org

Private Scholarships - check with your high school counselor or the public library, and the following websites:

- www.fastweb.com
- www.finaid.org
- www.fastaid.com
- www.college-scholarships.com

How to Apply for Financial Aid

1. Apply for admission to the College. Students must declare a major and be enrolled in a program leading towards a degree, diploma or eligible certificates to be qualified for financial aid. Awards vary based on your enrollment level (full-time, part-time). Financial aid will be based on the number of enrolled credits by the drop/add deadline.

2. Fill out the Free Application for Federal Student Aid (FAFSA). You must apply electronically through the Federal Department of Education website at www.fafsa.gov. During the application, enter the Saint Paul College school code, 005533. The Financial Aid Office will receive an electronic copy of the results within two weeks.

3. If you have attended any post-secondary schools prior to Saint Paul College and want to be considered for the Minnesota State Grant, submit academic transcripts to the Financial Aid Office from all previously attended schools.

4. After the Financial Aid Office receives the FAFSA results from Student Federal Aid, your application will be reviewed. Quickly respond to any and all requests for additional information. When your file is complete, financial aid eligibility will be calculated and you will be notified by email that an award letter has been created on your College e-services account.

5. Carefully read your award letter and follow the instructions for receiving awards. All loans and the Minnesota Child Care grant require additional application requirements.

Students Selected for Financial Aid Verification

The College verifies Free Application for Federal Student Aid (FAFSA) information of students selected by the Federal Student Aid or selected by the College. Students selected for verification will be notified by email that the Aid Application Status Letter, explaining the required documentation to complete the verification process, is available on their e-services account. The Aid Application Status Letter will request specific information and/or documents required for verification. Self-reported information including household size or number attending college may be requested or documents including proof of citizenship or child support paid may be needed. The documentation requested will depend on the verification group the student is placed in, as chosen by Federal Student Aid or the College.

Students should submit all required documentation within 30 days of the request. The financial aid process will not continue until the required documentation is received. Not submitting the requested documentation in a timely manner may result in loss of eligibility for the current academic year.

Once all required documentation has been received, students should allow a minimum of 14 business days for the verification process to be completed. If the FAFSA data matches the verification information, the Financial Aid process will continue toward a complete and accurate file at which time the student Award Letter can be viewed on-line at saintpaul.edu under the student's eServices 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. Upon receiving a corrected FAFSA report from the central processor, an Award Letter will be available to the student. Any cases of suspected fraud of misreported information or altered documentation to fraudulently obtain federal funds will be discussed with the College administration and referred to the Office of Inspector General of the Department of Education via Minnesota State.

Applying Financial Aid to Your Account

Financial Aid and other awards start applying to your student account during the third week of each semester. If you are using financial aid to pay your tuition and fees, you will have a balance on your account until the third week of classes. Students interested in charging books and supplies to their student accounts can do this through their Financial Aid award notification process. Any charges made through book charging will be added to your account and then paid when aid is applied.

Any remaining excess funds will be sent to the student through BankMobile. You will receive a letter in a green envelope from BankMobile shortly after registering for your first class. After you receive the letter, you must choose how you want to receive any excess funds. You can set up a direct deposit to a current bank account, request a debit card (known as the Saint Paul College Card) from BankMobile, or have a check mailed to you. For more information on disbursement, go to Saint Paul College Card: Disbursement Options.

After the first disbursement of the semester, aid applies weekly to student accounts on Wednesdays. First-time loan borrowers must wait 30 days until the first disbursement of their loans. All loans must have at least two disbursements. Semester-only loans will be disbursed at the beginning of the semester and at the halfway point of the semester.
Financial Aid Policies & Procedures

Withdrawals
If you withdraw from the College before the add/drop date for a semester, you will not receive financial aid funds because there will be no class registration. If you withdraw from attendance at the College for any reason after the add/drop date for the semester, you will be placed on financial aid probation the following academic semester.

Students who receive financial aid and withdraw from all classes are subject to a Federal Return of Title IV Funds policy. The policy states that if you withdraw up to 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.

Any institution refund calculated within the first four weeks of semester 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 from which funds were disbursed. Funds are returned in the following order:

- Unsubsidized Federal Direct Loan
- Subsidized Federal Direct Loan
- Federal PLUS Loan
- Federal Pell Grant
- Federal SEOG Grant

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

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

Consortium Agreements for Financial Aid

If you are taking classes at another college which are required for your program at the College, you must complete a consortium agreement if you would like those courses considered for financial aid eligibility. The Consortium Agreement form is available online on the Financial Aid Forms page and also In One Stop, and must be completed with an attached registration form from the host institution and submitted to One Stop by the add/drop deadline. If a consortium agreement is not submitted, financial aid calculations cannot consider courses taken at the host school, as you cannot receive financial aid at two different schools during the same semester of enrollment.

Tuition & Fee Deferments

Tuition and fees will be deferred provided the following has been met by the posted tuition deadline for the semester:

1. Student has received an Award Letter with financial aid eligibility equal to or greater than the tuition/fee charge. (Loan eligibility requires a submitted Promissory Note).
2. An electronic Institutional Student Information Record (ISIR) is received resulting from submission of a FAFSA.
3. Any tuition/fee balance not covered by Financial Aid is the student’s payment responsibility.

Financial Aid Book Charging Process

You may charge the cost of your books prior to financial aid being disbursed if you meet all the following criteria:

1. You are registered for current semester classes.
2. You have received your Financial Aid Award Letter and have completed the loan acceptance, if you will be using loan funds to pay for books and supplies.
3. The total financial aid you will be receiving, at your registered credit level, exceeds your current account balance.
4. You have completed the one-time Miscellaneous Charge Authorization in your Financial Aid Award Notification in eServices.
5. You have activated your Saint Paul College email account.

Financial Aid Book Charging allows students to charge books and supplies at the Saint Paul College Bookstore and is administered by the Tuition Office.

Special Circumstances/Income Review

Federal laws governing financial aid allow the College Financial Aid Office to recalculate financial need in cases of special circumstances not taken into consideration by the Free Application of Federal Student Aid (FAFSA). To ensure fairness and compliance with federal regulations, there are limits to which circumstances can be considered. Special circumstances are considered on a case-by-case basis.

For more detailed information on types of special circumstances and requirements for submitting a “Special Circumstances Appeal Form” go to saintpaul.edu/financialaidforms.

Dependency Override Appeal

Federal Student Aid determines a student’s status as dependent or independent by the answers the student provides on the thirteen questions listed in Step 3 of the Free Application for Federal Student Aid (FAFSA). Students are classified as dependent or independent because federal student aid programs are based on the principle that students (and their parents or spouse) are considered the primary source of support for postsecondary education. The Dependency Override process is used to address on a case-by-case basis a student who claims to be independent but does not meet the federal criteria. The student must demonstrate unique and extenuating circumstance.

For more detailed information on types of extenuating circumstances given consideration and requirements for submitting a “Dependency Override Appeal: Student Information/Recourse Statement” form go to saintpaul.edu/financialaidforms.

Audited & Credit by Exam Courses

Audited or Credit by Exam Courses 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.
Developmental Education Courses & English for Academic Purposes (EAPP) Courses

Developmental Education courses and English for Academic Purposes (EAPP) courses will be included in the cumulative GPA and completion rate. English for Academic Purposes (EAPP) courses and up to 30 credits of Developmental Education coursework will be excluded from the 150% maximum time frame calculation.

Repeated Courses

Courses may be repeated for financial aid eligibility for “F,” “W,” “FN” or “FW” grades or if program requirements require a higher grade. The cumulative GPA will use the highest grade achieved. To request the opportunity to repeat a course for the third time, students should meet with their Pathway Advisor. Courses repeated a third time require registration permission. The cumulative completion rate includes all repeated courses.

Satisfactory Academic Progress for Financial Aid

Transfer Credits

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

Withdrawals

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

Tax Benefits for Education

Tax credits, deductions and savings plans can help taxpayers with their expenses for higher education.

- A tax credit reduces the amount of income tax you may have to pay. Education credits include the American Opportunity Credit and the Lifetime Learning Credit.
- 1098-T Tuition statements are issued in January.
- Please go to the following website for additional information:
  www.minnstate.edu/system/finance/taxinformation
- A deduction reduces the amount of your income that is subject to tax, thus generally reducing the amount of tax you may have to pay.
- Certain savings plans allow the accumulated interest to grow tax-free until money is taken out (known as a distribution), or allow the distribution to be tax-free, or both.
- An exclusion from income means that you won’t have to pay income tax on the benefit you’re receiving, but you also won’t be able to use that same tax-free benefit for a deduction or credit.

EDUCATIONAL PROGRAMS

Liberal Arts and Sciences Associate of Arts (AA) Degree

Program Overview

The Associate of Arts (AA) degree is awarded for successful completion of 60 semester credits in liberal arts and sciences and is designed to constitute the first two years of a baccalaureate degree. It is also 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 electives 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 (MnTC) 40 semester credits which, pursuant of Minnesota statute, must transfer to any institution in the Minnesota State Colleges and University system or to the University of Minnesota. Students are to develop an educational plan with a Pathway Advisor to verify degree requirements are fulfilled, as requirements may vary depending upon the major and transfer college.

The AA degree can be completed through a variety of course delivery methods including face to face, hybrid and/or online. The Science, Technology, Engineering and Math (STEM), and Liberal and Fine Arts departments offer online classes to satisfy the MnTC requirements. A student may choose to complete the entire AA degree online.

Program Outcomes:

1. Knowledge of the important concepts and principles of the natural sciences, mathematics, history, social and behavioral sciences, arts, and humanities
2. Skills necessary for life roles, including skills in thinking, communication and methods of inquiry and applications of knowledge
3. 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
Total Requirements: ............................. 60 credits
MnTC Distribution Requirements for the AA Degree

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minnesota Transfer Curriculum (MnTC) Goals 1-10</td>
<td>40</td>
</tr>
<tr>
<td>Goal 1: Communication</td>
<td>9</td>
</tr>
<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
<td></td>
</tr>
<tr>
<td>ENGL 1712 Composition 2 – 2 cr</td>
<td></td>
</tr>
<tr>
<td>COMM 17XX One eligible course – 3 cr</td>
<td></td>
</tr>
<tr>
<td>Goal 2: Critical Thinking</td>
<td></td>
</tr>
<tr>
<td>Fulfilled when all the goal areas are completed (40 credits)</td>
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</tr>
<tr>
<td>Goal 3: Natural Sciences</td>
<td>7</td>
</tr>
<tr>
<td>Minimum of two courses from two different disciplines, one of which must be a lab course.</td>
<td></td>
</tr>
<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>Minimum of one course. Courses must be numbered between 1700-1799 or 2700-2799</td>
<td></td>
</tr>
<tr>
<td>Goal 5: History, Social Sciences, and Behavioral Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Minimum of three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>Goal 6: Humanities and Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Minimum of three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>Goal 7: Human Diversity</td>
<td>1-4</td>
</tr>
<tr>
<td>Minimum of one eligible course</td>
<td></td>
</tr>
<tr>
<td>Goal 8: Global Perspective</td>
<td>1-4</td>
</tr>
<tr>
<td>Minimum of one eligible course</td>
<td></td>
</tr>
<tr>
<td>Goal 9: Ethic and Civil Responsibility</td>
<td>1-4</td>
</tr>
<tr>
<td>Minimum of one eligible course.</td>
<td></td>
</tr>
<tr>
<td>Goal 10: People and the Environment</td>
<td>1-4</td>
</tr>
<tr>
<td>Minimum of one eligible course.</td>
<td></td>
</tr>
</tbody>
</table>

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.

AS Degree Programs

- Biology Transfer Pathway
- Business Transfer Pathway
- Chemistry
- Child Development Careers
- Child Development Careers ASL
- Computer Graphics and Visualization
- Computer Science Transfer Pathway
- Data Science
- Engineering Broad Field
- Finance
- Health Sciences Broad Field
- Management Information Systems
- Public Health
- Science Technician

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 One Stop, or speak with your Pathway 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
<td>7</td>
</tr>
<tr>
<td>COMM 17XX (Goal 1 only) – 3 cr</td>
<td></td>
</tr>
</tbody>
</table>

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

Goal 5: History, Social Sciences and Behavioral Sciences  
Goal 6: Humanities and Fine Arts  
Goals 1–10 of the Minnesota Transfer Curriculum  
Select a minimum of 14 additional credits  
Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

Total General Education Requirements  30

Associate of Applied Science (AAS) Degree
The Associate of 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 Pathway Advisor for specific information and refer to the Transfer Articulation Agreements Table.

AAS Programs
• Accounting
• Automotive Service Technician
• Child Development Careers
• Clinical Sports Massage
• CNC Toolmaking
• Computer Network Engineering
• Computer Programming
• Cosmetology
• Culinary Arts
• CyberSecurity
• Esthetician (Advanced Practice)
• Esthetician (Spa)
• Geographic Information Science
• Global Trade Specialist
• Health Information Technology
• Healthcare Informatics
• Hospitality Management
• Human Resources
• Individualized Studies
• Marketing
• Medical Laboratory Technician
• Medical Office Professional
• Nanoscience Technology
• Office Management Professional
• Patient Care Technician
• Pharmacy Technician
• Project Management
• Respiratory Therapist
• Sheet Metal-HVAC Ducts and Fittings
• Sign Language Interpreter/Transliterator
• Sport and Exercise Sciences
• Supply Chain Logistics
• Surgical Technology
• 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 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 One Stop, or speak with your Pathway 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  Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

<table>
<thead>
<tr>
<th>Goal 1: Communication</th>
<th>7</th>
</tr>
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<tbody>
<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
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<td>COMM 17XX (Goal 1 only) – 3 cr</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Goal 3 or Goal 4</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 3: Natural Sciences OR</td>
<td></td>
</tr>
<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
<td></td>
</tr>
</tbody>
</table>

| Goal 5: History, Social Sciences and Behavioral Sciences | 3 |
| Goal 6: Humanities and Fine Arts | 3 |

Total General Education Requirements  16

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. One third of the credits required for a diploma must be earned at the College.
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. One third of the credits required for a certificate must be earned at the College.

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. Developmental courses are not considered college-level credit and will not apply towards any certificate, diploma, or degree completion requirements.

English for Academic Purposes (EAPP)
The purpose of English for Academic Purposes (EAPP) 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. These classes are tailored to meet these unique needs.

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 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 One Stop 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 Career and Technical Division, 651.846.1320.

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.

   a. understand/demonstrate the writing and speaking processes through invention, organization, drafting, revision, editing and presentation.

   b. participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.

   c. locate, evaluate, and synthesize in a responsible manner material from diverse sources and points of view.

   d. select appropriate communication choices for specific audiences.

   e. construct logical and coherent arguments.

   f. use authority, point-of-view, and individual voice and style in their writing and speaking.

   g. employ syntax and usage appropriate to academic disciplines and the professional world.

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.

   a. demonstrate understanding of scientific theories
   b. formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students, laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
   c. communicate their experimental findings, analyses, and interpretations both orally and in writing.
   d. evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

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.

   a. illustrate historical and contemporary applications of mathematical/logical systems.
   b. clearly express mathematical/logical ideas in writing.
   c. explain what constitutes a valid mathematical/logical argument (proof).
   d. apply higher-order problem-solving and/or modeling strategies.

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.

   a. employ the methods and data that historians and social and behavioral scientists use to investigate the human condition.
   b. examine social institutions and processes across a range of historical periods and cultures.
   c. use and critique alternative explanatory systems or theories.
   d. develop and communicate alternative explanations or solutions for contemporary social issues.

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.

   a. demonstrate awareness of the scope and variety of works in the arts and humanities.
   b. understand those works as expressions of individual and human values within an historical and social context.
   c. respond critically to works in the arts and humanities.
   d. engage in the creative process or interpretive performance.
   e. articulate an informed personal reaction to works in 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.

   a. understand the development of and the changing meanings of group identities in the United States, history and culture.
   b. demonstrate an awareness of the individual and institutional dynamics of unequal power relations between groups in contemporary society.
   c. analyze their own attitudes, behaviors, concepts and beliefs regarding diversity, racism, and bigotry.
   d. describe and discuss the experience and contributions (political, social, economic, etc.) of the many groups that shape American society and culture, in particular those groups that have suffered discrimination and exclusion.
   e. demonstrate communication skills necessary for living and working effectively in a society with great population diversity.
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.

a. describe and analyze political, economic, and cultural elements which influence relations of states and societies in their historical and contemporary dimensions.

b. demonstrate knowledge of cultural, social, religious and linguistic differences.

c. analyze specific international problems, illustrating the cultural, economic, and political differences that affect their solution.

d. understand the role of a world citizen and the responsibility world citizens share for their common global future.

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.

a. examine, articulate, and apply their own ethical views.

b. understand and apply core concepts (e.g. politics, rights and obligations, justice, liberty) to specific issues.

c. analyze and reflect on the ethical dimensions of legal, social, and scientific issues.

d. recognize the diversity of political motivations and interests of others.

e. identify ways to exercise the rights and responsibilities of citizenship.

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.

a. explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those systems.

b. discern patterns and interrelationships of bio-physical and socio-cultural systems.

c. describe the basic institutional arrangements (social, legal, political, economic, religious) that are evolving to deal with environmental and natural resource challenges.

b. describe and analyze political, economic, and cultural elements which influence relations of states and societies in their historical and contemporary dimensions.

c. analyze specific international problems, illustrating the cultural, economic, and political differences that affect their solution.

d. understand the role of a world citizen and the responsibility world citizens share for their common global future.

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\textsuperscript{10}) satisfy more than one goal area; however, credits are counted only once toward the 40-credit minimum requirement. A (p) indicates a prerequisite is required for that course. Completion of the MnTC meets the lower division general education requirements at Minnesota State Colleges and Universities and the University of Minnesota. Contact the Pathway Advisor for more information.

To follow the Associate of Science or Associate of 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 of Science degree requires 30 MnTC credits; the Associate of Applied Science degree requires 16 MnTC credits.

For any additions or changes in the MnTC Course List, contact a College Pathway Advisor in Advising & Counseling.

MnTC Goal 1: Communication

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<td>Composition 1</td>
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<tr>
<td>ENGL 1712</td>
<td>Composition 2\textsuperscript{p}</td>
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<tr>
<td>ENGL 1730</td>
<td>Introduction to Technical Writing</td>
<td>3</td>
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<tr>
<td>ENGL 2790</td>
<td>Special Topics in English</td>
<td>1-6</td>
</tr>
<tr>
<td>COMM 1710\textsuperscript{p}</td>
<td>Fundamentals of Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1720\textsuperscript{p}</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1730\textsuperscript{p}</td>
<td>Intercultural Communication</td>
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<tr>
<td>COMM 1750\textsuperscript{p}</td>
<td>Small Group Communication</td>
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<td>COMM 1770\textsuperscript{p}</td>
<td>Family Communication</td>
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<td>COMM 1780\textsuperscript{p}</td>
<td>Gender Communication</td>
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<tr>
<td>COMM 1790</td>
<td>Special Topics in Communications</td>
<td>1-6</td>
</tr>
</tbody>
</table>

*Course contains lab\textsuperscript{p} = Indicates prerequisite required for course

MnTC Goal 2: Critical Thinking

Fulfilled when all 10 Goal Areas of MnTC are completed

40

*Course contains lab\textsuperscript{p} = Indicates prerequisite required for course

MnTC Goal 3: Natural Sciences

<table>
<thead>
<tr>
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<td>Biochemical Laboratory Exploration</td>
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### MnTC Goal 3: Natural Sciences continued

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<td>BIOC 2700*</td>
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<tr>
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<td>Biochemistry Internship/Research Project</td>
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<tr>
<td>BIOL 1725**</td>
<td>Environmental Science</td>
<td>4</td>
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<tr>
<td>BIOL 1730*</td>
<td>Human Body Systems</td>
<td>3</td>
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<tr>
<td>BIOL 1735*</td>
<td>Understanding Biology</td>
<td>4</td>
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<tr>
<td>BIOL 1740*</td>
<td>General Biology: The Living Cell</td>
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<td>BIOL 1745**</td>
<td>General Biology: The Living World (p)</td>
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<td>BIOL 1760</td>
<td>Nutrition</td>
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<tr>
<td>BIOL 1782*</td>
<td>Introduction to Forensic Science</td>
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<td>BIOL 1785*</td>
<td>Biology of Women</td>
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<td>BIOL 1790</td>
<td>Special Topics in Biology</td>
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<tr>
<td>BIOL 2721*</td>
<td>Human Anatomy and Physiology 1 (p)</td>
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<td>BIOL 2722*</td>
<td>Human Anatomy and Physiology 2 (p)</td>
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<td>Cell and Molecular Biology (p)</td>
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<td>Biology Internship</td>
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<td>CHEM 1700*</td>
<td>Chemistry Concepts</td>
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<td>CHEM 1711*</td>
<td>Principles of Chemistry 1 (p)</td>
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<tr>
<td>CHEM 1712*</td>
<td>Principles of Chemistry 2 (p)</td>
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<td>CHEM 2700*</td>
<td>Organic Chemistry Survey (p)</td>
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<td>CHEM 2720*</td>
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<tr>
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<td>Instrumental Analysis (p)</td>
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<td>CHEM 2790</td>
<td>Science Technician Laboratory Research Project</td>
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<td>CHEM 2791</td>
<td>Cleanroom Lab Research Project</td>
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<td>CHEM 2795</td>
<td>Special Topics in Chemistry</td>
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<tr>
<td>NSCI 1710**</td>
<td>Earth Science</td>
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<tr>
<td>NSCI 1721**</td>
<td>Introduction to Geology</td>
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<td>NSCI 1730**</td>
<td>Introduction to Oceanography</td>
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<td>NSCI 1740**</td>
<td>Introduction to Meteorology</td>
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<td>NSCI 1750**</td>
<td>Natural Disasters</td>
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<td>NSCI 1770**</td>
<td>Introduction to Energy and the Environment</td>
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<tr>
<td>NSCI 1780*</td>
<td>Contemporary Issues in Science</td>
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<tr>
<td>NSCI 1782**</td>
<td>Minnesota Geology</td>
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<tr>
<td>NSCI 1790</td>
<td>Special Topics in Natural Science</td>
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</tr>
<tr>
<td>NSCI 2770</td>
<td>Natural Sciences Internship</td>
<td>1-4</td>
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<tr>
<td>PHYS 1720*</td>
<td>Principles of Physics 1 (p)</td>
<td>4</td>
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<td>PHYS 1722*</td>
<td>Principles of Physics 2 (p)</td>
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<td>PHYS 1760**</td>
<td>Descriptive Astronomy (no lab)</td>
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<td>PHYS 2700*</td>
<td>General Physics 1 (with Calculus) (p)</td>
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<td>General Physics 2 (with Calculus) (p)</td>
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<td>PHYS 2760**</td>
<td>Introductory Astronomy (with lab)</td>
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<tr>
<td>PHYS 2790</td>
<td>Special Topics in Physics</td>
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*p Course contains lab  (p) = Indicates prerequisite required for course

### MnTC Goal 4: Mathematical/Logical Reasoning

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<td>Liberal Arts Mathematics</td>
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<td>MATH 1730</td>
<td>College Algebra</td>
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<td>MATH 1740</td>
<td>Introduction to Statistics</td>
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<td>MATH 1750</td>
<td>Trigonometry (p)</td>
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<td>MATH 1762</td>
<td>Pre-Calculus (p)</td>
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<td>MATH 1790</td>
<td>Special Topics in Mathematics</td>
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<tr>
<td>MATH 2100</td>
<td>Intermediate Statistics (p)</td>
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<tr>
<td>MATH 2749</td>
<td>Calculus 1 (p)</td>
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<td>MATH 2750</td>
<td>Calculus 2 (p)</td>
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<tr>
<td>MATH 2753</td>
<td>Multivariable Calculus (p)</td>
<td>4</td>
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<tr>
<td>MATH 2760</td>
<td>Differential Equations and Linear Algebra (p)</td>
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<tr>
<td>PHIL 1710</td>
<td>Logic</td>
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*p Course contains lab  (p) = Indicates prerequisite required for course

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

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<th>Course Title</th>
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<tr>
<td>ANTH 1710*</td>
<td>Introduction to Cultural Anthropology</td>
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<tr>
<td>ANTH 1720**</td>
<td>Introduction to Physical Anthropology</td>
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<tr>
<td>ANTH 1730*</td>
<td>Gender and Culture in Global Perspectives</td>
<td>3</td>
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<td>ANTH 1790</td>
<td>Special Topics in Anthropology</td>
<td>1-6</td>
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<tr>
<td>ECON 1710</td>
<td>Introduction to the American Economy</td>
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<td>ECON 1720*</td>
<td>Macroeconomics</td>
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<td>ECON 1730*</td>
<td>Microeconomics</td>
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<td>ECON 1790</td>
<td>Special Topics in Economics</td>
<td>1-6</td>
</tr>
<tr>
<td>COMM 1740*</td>
<td>Mass Media &amp; Communications</td>
<td>3</td>
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<tr>
<td>GEOG 1700*</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1720*</td>
<td>Human / Cultural Geography</td>
<td>3</td>
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<tr>
<td>GEOG 1740*</td>
<td>World Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1750*</td>
<td>Minnesota Geography</td>
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</tr>
<tr>
<td>GEOG 1790</td>
<td>Special Topics in Geography</td>
<td>1-6</td>
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<tr>
<td>GLO S 1710*</td>
<td>Introduction to Global Studies</td>
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<tr>
<td>HIST 1730*</td>
<td>Contemporary World History</td>
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<tr>
<td>HIST 1745*</td>
<td>U.S. History to 1877</td>
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<td>HIST 1746*</td>
<td>U.S. History since 1877</td>
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### MnTC Goal 5: History, Social Sciences, and Behavioral Sciences continued

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<td>Minnesota History</td>
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<td>HIST 1760</td>
<td>History of World Civilizations to 1500</td>
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<td>HIST 1761</td>
<td>History of World Civilizations since 1500</td>
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<td>HIST 1770</td>
<td>History of Women in the United States</td>
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<td>HIST 1773</td>
<td>African American History</td>
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<td>HIST 2740</td>
<td>Immigration &amp; Ethnic History of the United States</td>
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<td>HIST 2780</td>
<td>Special Topics in History</td>
<td>1-6</td>
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<tr>
<td>HIST 2790</td>
<td>Historical Methods</td>
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<td>POLS 1720</td>
<td>Introduction to American Government</td>
<td>3</td>
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<td>POLS 1740</td>
<td>Introduction to World Politics</td>
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<tr>
<td>POLS 1750</td>
<td>Introduction to Political Science</td>
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<td>POLS 1760</td>
<td>Introduction to Political Philosophy</td>
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<td>POLS 1790</td>
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<td>PSYC 1710</td>
<td>General Psychology</td>
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<td>Psychology throughout the Lifespan</td>
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<td>Abnormal Psychology (p)</td>
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<td>PSYC 1750</td>
<td>Introduction to Health Psychology</td>
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<td>PSYC 1790</td>
<td>Special Topics in Psychology</td>
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<td>SOCI 1710</td>
<td>Introduction to Sociology</td>
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<tr>
<td>SOCI 1720</td>
<td>Social Problems</td>
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<td>SOCI 1730</td>
<td>Sociology of Families and Relationships</td>
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<td>SOCI 1740</td>
<td>Sociology of Work</td>
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<td>SOCI 1760</td>
<td>Mass Media and Society</td>
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<td>SOCI 1765</td>
<td>Sociology of Crime and Deviance</td>
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<td>SOCI 1766</td>
<td>Juvenile Delinquency</td>
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<td>SOCI 1772</td>
<td>Introduction to Criminal Justice</td>
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<td>SOCI 1774</td>
<td>Introduction to Corrections</td>
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<td>SOCI 1776</td>
<td>Probation, Parole and Alternative Sentencing</td>
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<td>SOCI 1790</td>
<td>Special Topics in Sociology</td>
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<td>SOCI 2720</td>
<td>Social Psychology (p)</td>
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<td>WGST 1785</td>
<td>Foundations in Women's Studies</td>
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<td>WGST 1790</td>
<td>Special Topics in Women's and Gender Studies</td>
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*Course contains lab  (p) = Indicates prerequisite required for course

### MnTC Goal 6: Humanities and Fine Arts

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<td>ARTS 1714</td>
<td>Photography 2 (p)</td>
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<tr>
<td>ARTS 1720</td>
<td>Art Appreciation</td>
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<td>ARTS 1722</td>
<td>American Animation</td>
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<tr>
<td>ARTS 1724</td>
<td>The Design of Everyday Life</td>
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<td>ARTS 1726</td>
<td>Art in the Cities</td>
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<tr>
<td>ARTS 1730</td>
<td>Drawing 1</td>
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<td>ARTS 1731</td>
<td>Drawing 2 (p)</td>
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<tr>
<td>ARTS 1732</td>
<td>Two-dimensional Design</td>
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<td>ARTS 1733</td>
<td>Three-dimensional Design</td>
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<td>ARTS 1740</td>
<td>Introduction to Painting</td>
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<td>ARTS 1742</td>
<td>Intermediate Painting (p)</td>
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<td>Introduction to Watercolor Painting</td>
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<td>ARTS 1750</td>
<td>Introduction to Ceramics</td>
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<td>ARTS 1752</td>
<td>Intermediate Ceramics (p)</td>
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<td>ARTS 1756</td>
<td>Metal Arts</td>
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<td>ARTS 1760</td>
<td>World Art</td>
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<tr>
<td>ARTS 1770</td>
<td>Art in America</td>
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<tr>
<td>ARTS 1780</td>
<td>Beginning Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1790</td>
<td>History of Photography</td>
<td>3</td>
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<tr>
<td>ARTS 1795</td>
<td>Special Topics in Art</td>
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<tr>
<td>ARTS 2710</td>
<td>Advanced Studio Arts</td>
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<td>ARTS 2754</td>
<td>Advanced Ceramics (p)</td>
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<td>ENGL 1720</td>
<td>Introduction to Creative Writing (p)</td>
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<td>ENGL 1725</td>
<td>Introduction to Fiction Writing</td>
<td>3</td>
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<td>ENGL 1780</td>
<td>Recently Arrived Contemporary Immigrant Literature</td>
<td>3</td>
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<td>ENGL 1790</td>
<td>Contemporary Writers of Color (p)</td>
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<td>ENGL 2721</td>
<td>Survey of American Literature 1 (p)</td>
<td>3</td>
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<td>THTR  1740  Fundamentals of Playwriting: Playwriting 1 3</td>
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<td>ANTH  1710  Introduction to Cultural Anthropology 4</td>
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<td>ARTS  1722  American Animation 3</td>
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<td>SOCI  1765  Sociology of Crime and Deviance 3</td>
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*Course contains lab (p) = Indicates prerequisite required for course
### MnTC Goal 8: Global Perspective Credits

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<td>ARTS 1720</td>
<td>Art Appreciation</td>
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<td>World Art</td>
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<td>Introduction to Communications</td>
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<td>COMM 1710</td>
<td>Fundamentals of Public Speaking</td>
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<td>Intercultural Communication</td>
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<td>Macroeconomics</td>
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<td>Microeconomics</td>
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<td>Contemporary World History</td>
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<td>History of World Civilizations to 1500</td>
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<td>History of World Civilizations since 1500</td>
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<td>Culture and Civilization: Spanish-Speaking Cultures</td>
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<td>SOCI 1720</td>
<td>Social Problems</td>
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<td>Sociology of Work</td>
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<td>THTR 1716</td>
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*Course contains lab  (p) = Indicates prerequisite required for course

### MnTC Goal 9: Ethical & Civic Responsibility Credits

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<td>COMM 1740</td>
<td>Mass Media &amp; Communications</td>
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<td>COMM 1750</td>
<td>Small Group Communication</td>
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<td>HIST 1770</td>
<td>History of Women in the United States</td>
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<td>HIST 2740</td>
<td>Immigration and Ethnic History of the United States</td>
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<td>Contemporary Issues in Science</td>
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<td>PHIL 1720</td>
<td>Ethics</td>
<td>3</td>
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<td>PHIL 1722</td>
<td>Health Care Ethics</td>
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<td>POLS 1720</td>
<td>Introduction to American Government</td>
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<td>POLS 1750</td>
<td>Introduction to Political Science</td>
<td>3</td>
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<td>POLS 1760</td>
<td>Introduction to Political Philosophy</td>
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<td>Special Topics in Political Science</td>
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<td>Psychology throughout the Lifespan</td>
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<td>Juvenile Delinquency</td>
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<td>SOCI 1772</td>
<td>Introduction to Criminal Justice</td>
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<td>Introduction to Corrections</td>
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<td>Probation, Parole and Alternative Sentencing</td>
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<td>Foundations in Women’s Studies</td>
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<td>Special Topics in Women’s and Gender Studies</td>
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*Course contains lab  (p) = Indicates prerequisite required for course

### MnTC Goal 10: People & the Environment Credits

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<td>BIOL 1725</td>
<td>Environmental Science</td>
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<td>General Biology: The Living World (p)</td>
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<td>Physical Geography</td>
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<td>GEOG 1750</td>
<td>Minnesota Geography</td>
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<td>HIST 1750</td>
<td>Minnesota History</td>
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<td>NSCI 1710</td>
<td>Earth Science</td>
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<td>NSCI 1721</td>
<td>Introduction to Geology</td>
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<td>NSCI 1730</td>
<td>Introduction to Oceanography</td>
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<td>NSCI 1740</td>
<td>Introduction to Meteorology</td>
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<td>Natural Disasters</td>
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<td>Introduction to Energy and the Environment</td>
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<td>Minnesota Geology</td>
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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 of 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 Pathway Advisor at Saint Paul College and to the appropriate person at the transfer college. Refer to the General Transfer Table.

An Associate of 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. In addition to technical requirements, 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.

An Associate of 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 Pathway Advisor in the Advising & Counseling Center as transfer options are more limited. In addition to technical requirements, 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 Pathway Advisor, consult college catalogs and websites and talk to advisors at the four-year institution. Pathway Advisors and other transfer resources are available in Advising and Counseling. 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 website (saintpaul.edu) or the Minnesota Transfer website (www.mntransfer.org) for more information.

Obtain the following materials and information from the four-year institution: college catalog, transfer brochure, information on financial aid (how to apply and by what date), information about admissions criteria and materials required for admission. (e.g., transcripts, test scores, portfolio, etc.). Note that some majors have limited enrollment and/or special admission requirements such as specific grade point averages.

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 Pathway Advisor 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 may also be required to provide a high school transcript or GED test scores.

Make certain the college or university has been supplied with all the necessary paperwork. Most colleges make no decisions until all required documents are filed. If nothing has been heard from the intended college of transfer after one month, call to check on application status.
After receiving notification of acceptance, transcripted credits will be evaluated for transfer. A written evaluation should explain which courses transfer and which do not. How courses specifically meet degree requirements may not be decided until orientation or selection of a major.

Contact the college of transfer 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.

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

Contact the college of transfer 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.

**General Transfer Table 2018-2019**

**For students following the Associate of Arts (AA) or other general transfer**

The following table summarizes transfer to many colleges. Students who are planning to transfer to other institutions should work with Pathway Advisor 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 Advising and Counseling.

<table>
<thead>
<tr>
<th>Saint Paul College</th>
<th>Degree / Major Offered</th>
<th>Transfer Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA/MnTC</td>
<td>-</td>
<td>All Minnesota State Colleges and Universities</td>
</tr>
<tr>
<td>AA/MnTC</td>
<td>-</td>
<td>Augsburg University</td>
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<tr>
<td>AA</td>
<td>-</td>
<td>Bethany Lutheran</td>
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<tr>
<td>Selected Liberal Arts Courses</td>
<td>-</td>
<td>Bethel University</td>
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<td>AA/MnTC</td>
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<td>Hamline University</td>
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<td>AS/AAS</td>
<td>-</td>
<td>Metropolitan State University</td>
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</tr>
<tr>
<td>AA/Selected Liberal Arts Courses</td>
<td>-</td>
<td>University of Wisconsin-Stout</td>
</tr>
</tbody>
</table>

**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 on 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 Pathway Advisor 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 Pathway Advisor for further information.
References to the Minnesota Transfer Curriculum (MnTC)

Throughout the following program pages, the Minnesota Transfer Curriculum (MnTC) will be referenced regarding General Education requirements. The MnTC has specific credit requirements and ten goal areas. Some program areas will have specific general education course numbers listed as required or recommended for MnTC goal areas. Notations such as “Goal 4: Mathematics/Logical Reasoning” will be listed instead of specific course numbers, which means that students may select specific courses from that MnTC goal area to fulfill the requirements of the program.

For example, if a program requires a non-specified, four-credit course in social or behavioral sciences, the program requirement would be listed as “Goal 5 – History, Social Science & Behavioral Sciences: 4 credits.” This means that any four-credit course listed under Goal 5 of the Minnesota General Education Transfer Curriculum could be used to fulfill that requirement.

It may be necessary for students to select additional MnTC credits beyond the minimum number required in each goal area in order to reach the total MnTC/General Education credits required for their degree or program.

The specific courses for each MnTC Goal Area are listed in this Catalog and on our website.

Program Requirement Guides

Program Requirement Guides for each individual program are available in One Stop and Advising & Counseling.

The guides are also available on our website at saintpaul.edu/ProgramGuides.
Business Programs

The mission of the Business Department at Saint Paul College is to sustain the College mission by providing quality, lifelong business education supported by technology for a diverse, metropolitan student population.

Accounting
Accounting AAS Degree (60 Credits) ......................... 32
Accounting Technician Diploma (38 Credits) ............... 34

Office Management Professional
Office Management Professional AAS Degree
(60 Credits) .................................................. 35
Business Certificate (16 Credits) ............................... 37
Customer Service Office Support Certificate (27 credits) . 38

Business
Business Transfer Pathway AS Degree (60 Credits) ....... 39
Nonprofit Certificate (27 Credits) ............................. 40

Project Management
Project Management AAS Degree (60 Credits) .......... 41
Project Management Certificate (21 Credits) .............. 42

Entrepreneurship
Entrepreneurship Certificate (24 Credits) ................. 43

Finance
Finance AS Degree (60 Credits) ............................. 44

Global Trade
Global Trade Specialist AAS Degree (60 Credits) ....... 45
Global Trade Professional Certificate (16 Credits) ...... 47

Hospitality Management
Hospitality Management AAS Degree (60 Credits) ..... 48
Event and Meeting Management Certificate (18 Credits) . 50

Human Resource Management
Human Resources AAS Degree (60 Credits) ............... 51
Human Resources Certificate (25 Credits) .................. 53

Marketing
Marketing AAS Degree (60 Credits) ....................... 54
Social Media Marketing Certificate (17 Credits) .......... 56

Supply Chain Logistics
Supply Chain Logistics AAS Degree (60 Credits) ....... 57
Supply Chain Logistics Certificate (19 Credits) .......... 59
Accounting AAS DEGREE

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.

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 or junior accountant. The financial accounting technician positions are found in the areas of public accounting, private accounting, non-profit accounting, auditing, taxation, cost accounting and managerial positions.

Program Outcomes
1. Graduates 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 employment and personal roles.
5. Graduates will serve their employers and clients in all phases of accounting, including financial accounting, managerial accounting and tax accounting.
6. Graduates will have critical thinking skills.

Program Faculty
Kendal Loewen kendal.loewen@saintpaul.edu
Jim O’Halloran james.o’halloran@saintpaul.edu
651.846.1528
651.846.1436

Part-time/Full-time Options
Some day, evening, and Saturday class availability. Students may attend full-time or part-time.

Program Requirements
☐ Check off when completed

Required Business Core
- ACCT 2410 Financial Accounting ............... 4
- BUSN 1410 Introduction to Business ............ 3
- BUSN 1449 Business Communications ............ 3
- BUSN 2465 Business Ethics ....................... 3

Professional Component
- ACCT 2411 Intermediate Accounting ............ 4
- ACCT 1511 Federal Taxation 1 ...................... 4
- ACCT 1512 Federal Taxation 2 ...................... 4
- ACCT 1515 Payroll Processing ...................... 3
- ACCT 1523 Accounting Computer Applications . 3
- ACCT 2411 Intermediate Accounting ............ 4
- ACCT 2420 Managerial Accounting ............... 4
- ACCT 2540 Financial Modeling for Spreadsheets . 4

Course Cr
- ACCT 1410 Introduction to Accounting .......... 2
- ACCT 1511 Federal Taxation 1 ...................... 4
- ACCT 1512 Federal Taxation 2 ...................... 4
- ACCT 1515 Payroll Processing ...................... 3
- ACCT 1523 Accounting Computer Applications . 3
- ACCT 2411 Intermediate Accounting ............ 4
- ACCT 2420 Managerial Accounting ............... 4
- ACCT 2540 Financial Modeling for Spreadsheets . 4

Subtotal .......................................................... 28

General Education/MnTC Requirements
Cr
- Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
- Goal 1: Communication .................................. 3
- Goal 3 or Goal 4 .............................................. 3
- Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning
- Goal 5: History, Social Science, and Behavioral Sciences ......................... 3
- ECON 1720 Macroeconomics – 3 cr OR
- ECON 1730 Microeconomics – 3 cr
- Goal 6: Humanities and Fine Arts ....................... 3

General Education Requirements .................... 16
Total Program Credits ........................................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
- Reading: Score of 78+ or grade of “C” or better in READ 0722
- Writing: Score of 78+ or grade of “C” or better in ENGL 0922
- Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Program Start Dates
Fall, Spring, Summer
Course Sequence
The course sequence listed on the back of this guide is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Accounting AAS
- BA Individualized Studies
- BBA Accounting
- BBA Finance
- BS Accounting
- BS Applied Management
- BS Business Management

See back of this guide for Course Sequences

The mission of the Business Department at Saint Paul College is to sustain the College mission by providing quality, lifelong business education supported by technology for a diverse, metropolitan student population.

ACSBP ACCREDITED
Accreditation Council for Business Schools and Programs

Information is subject to change.
This Program Requirements Guide is not a contract.
# Accounting  AAS DEGREE (continued)

## Full-Time Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

### First Semester
- ACCT 1410 Introduction to Accounting ............ 2
- ACCT 1515 Payroll Processing ................... 3
- ACCT 1523 Accounting Computer Applications ..... 3
- BUSN 1410 Introduction to Business .............. 3
- Goal 1: COMM 17XX .......................... 3
- **Total Semester Credits** .......................... 14

### Second Semester
- ACCT 2410 Financial Accounting ................. 4
- BTEC 1421 Business Information Applications 1  ..... 3
- BUSN 1449 Business Communications ............. 3
- BUSN 2465 Business Ethics ...................... 3
- Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics ................. 3
- **Total Semester Credits** .......................... 16

### Third Semester
- ACCT 1511 Federal Taxation 1 ................... 4
- ACCT 2420 Managerial Accounting ............... 4
- Goal 1: ENGL 1711 Composition 1 ............... 4
- Goal 6: Humanities and Fine Arts ................. 3
- **Total Semester Credits** .......................... 15

### Fourth Semester
- ACCT 1512 Federal Taxation 2 ................... 4
- ACCT 2411 Intermediate Accounting .............. 4
- ACCT 2540 Financial Modeling for Spreadsheets .... 4
- Goal 3: Natural Sciences OR
  - Goal 4: Mathematical/Logical Reasoning .... 3
- **Total Semester Credits** .......................... 15

**Total Program Credits** .......................... 60

## Part-Time Course Sequence

The following sequence is recommended for a part-time student; however, this sequence is not required. Contact Program Faculty with questions.

### First Semester
- ACCT 1410 Introduction to Accounting ............ 2
- ACCT 1515 Payroll Processing ................... 3
- ACCT 1523 Accounting Computer Applications ..... 3
- BUSN 1410 Introduction to Business .............. 3
- Goal 1: COMM 17XX .......................... 3
- **Total Semester Credits** .......................... 11

### Second Semester
- ACCT 2410 Financial Accounting ................. 4
- BUSN 1449 Business Communications ............. 3
- Goal 1: COMM 17XX .......................... 3
- **Total Semester Credits** .......................... 10

### Third Semester
- ACCT 1511 Federal Taxation 1 ................... 4
- BUSN 2465 Business Ethics ...................... 3
- Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics ................. 3
- **Total Semester Credits** .......................... 10

### Fourth Semester
- ACCT 2420 Managerial Accounting ............... 4
- Goal 1: ENGL 1711 Composition 1 ............... 4
- Goal 6: Humanities and Fine Arts ................. 3
- **Total Semester Credits** .......................... 11

### Fifth Semester
- ACCT 1512 Federal Taxation 2 ................... 4
- ACCT 2411 Intermediate Accounting .............. 4
- **Total Semester Credits** .......................... 8

### Sixth Semester
- ACCT 2540 Financial Modeling for Spreadsheets .... 4
- BTEC 1421 Business Information Applications 1  ..... 3
- Goal 3: Natural Sciences OR
  - Goal 4: Mathematical/Logical Reasoning .... 3
- **Total Semester Credits** .......................... 10

**Total Program Credits** .......................... 60
Program Overview
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 and database management. The Accounting Technician may also assist in the planning and implementation of automated accounting systems.

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 or junior accountant. The financial accounting technician positions are found in the areas of public accounting, private accounting, non-profit accounting, auditing, taxation, cost accounting and managerial positions.

Program Requirements
☐ Check off when completed
Course                Cr
☐ ACCT 1410 Introduction to Accounting                    2
☐ ACCT 1511 Federal Taxation 1                           4
☐ ACCT 1512 Federal Taxation 2                           4
☐ ACCT 1515 Payroll Processing                           3
☐ ACCT 1523 Accounting Computer Applications             3
☐ ACCT 2410 Financial Accounting                         4
☐ ACCT 2411 Intermediate Accounting                      4
☐ ACCT 2420 Managerial Accounting                        4
☐ ACCT 2540 Financial Modeling for Spreadsheets          4
☐ BTEC 1421 Business Information Applications 1           3
Subtotal                                      35

General Education/MnTC Requirements                  Cr
☐ Goal 1: Communication                                 3
  COMM 17XX – 3 cr

General Education Requirements                        3

Total Program Credits                                  38

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
ACCT 1410 Introduction to Accounting                   2
ACCT 1515 Payroll Processing                           3
ACCT 1523 Accounting Computer Applications             3
BTEC 1421 Business Information Applications 1           3
Goal 1: COMM 17XX                                       3
Total Semester Credits                                    14

Second Semester
ACCT 1511 Federal Taxation 1                           4
ACCT 2410 Financial Accounting                         4
ACCT 2540 Financial Modeling for Spreadsheets          4
Total Semester Credits                                    12

Third Semester
ACCT 1512 Federal Taxation 2                           4
ACCT 2411 Intermediate Accounting                      4
ACCT 2420 Managerial Accounting                        4
Total Semester Credits                                    12

Total Program Credits                                    38

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722

Writing: Score of 60+ on Reading Comprehension or grade of “C” or better in ENGL 0921

Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
### Program Overview
This program will provide training for an office management professional position. Students will be trained in Microsoft Office software Excel, Word, PowerPoint, Access, and Outlook. Customer service skills for internal and external customers will be emphasized. Students will learn communication, customer service, teamwork, conflict resolution, negotiation skills and problem solving skills. Events planning and project management skills will also be introduced.

### Career Opportunities
1. Office Management Professional
2. Administrative Assistant
3. Customer Service Representative
4. Office Manager

### Program Outcomes
1. Graduates will obtain the knowledge to plan, direct, and coordinate supportive services of an organization.
2. Graduates will have working knowledge of business information applications.
3. Graduates will have the skills to manage staff, information, and facilities.

### Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree.

For more information please go to saintpaul.edu/Transfer.

### Office Management Professional AAS

<table>
<thead>
<tr>
<th>Program Faculty</th>
<th>Alli Vainshtein</th>
<th><a href="mailto:alli.vainshtein@saintpaul.edu">alli.vainshtein@saintpaul.edu</a></th>
<th>651.846.1529</th>
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### Program Requirements

- **Check off when completed**

#### Required Business Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 2410 Financial Accounting</td>
<td>4</td>
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<tr>
<td>BTEC 1421 Business Information Applications 1</td>
<td>3</td>
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<tr>
<td>BUSN 1410 Introduction to Business</td>
<td>3</td>
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<tr>
<td>BUSN 1449 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2465 Business Ethics</td>
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#### Required Business Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BTEC 1410 Advanced Keyboarding Applications</td>
<td>3</td>
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<tr>
<td>BTEC 1423 Business Information Applications 2</td>
<td>4</td>
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<tr>
<td>BTEC 2410 Business Procedures</td>
<td>4</td>
</tr>
<tr>
<td>BTEC 2506 Business Information Applications 3</td>
<td>4</td>
</tr>
<tr>
<td>BUSN 1520 Customer Service</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2450 Management Fundamentals</td>
<td>3</td>
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<tr>
<td>BUSN 2472 Business Negotiation Skills</td>
<td>3</td>
</tr>
<tr>
<td>HSPM 1440 Event Management &amp; Planning</td>
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#### Subtotal

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#### General Education/MnTC Requirements

<table>
<thead>
<tr>
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</tr>
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<tr>
<td>Goal 1: Communication</td>
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<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
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<tr>
<td>COMM 17XX – 3 cr</td>
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<td>Goal 3 or Goal 4</td>
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<tr>
<td>Goal 3: Natural Sciences OR</td>
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<td>Goal 4: Mathematical/Logical Reasoning</td>
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<tr>
<td>Goal 5: History, Social Science, and Behavioral Sciences</td>
<td>3</td>
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<tr>
<td>ECON 1720 Macroeconomics – 3 cr OR</td>
<td></td>
</tr>
<tr>
<td>ECON 1730 Microeconomics – 3 cr</td>
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<td>Goal 6: Humanities and Fine Arts</td>
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#### General Education Requirements

<table>
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### Total Program Credits

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>60</td>
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</table>

### Part-time/Full-time Options

This program can be completed by using a combination of day, evening and online courses. Part-time and full-time options are available.

### Program Start Dates

- Fall, Spring, Summer

### Course Sequence

The course sequence listed on the back of this guide is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

### Minimum Program Entry Requirements

- **Reading:** Score of 78+ or grade of “C” or better in READ 0722
- **Writing:** Score of 78+ or grade of “C” or better in ENGL 0922
- **Arithmetic:** Score of 20+
- **Keyboarding Skills:** Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400.
- **Computer Skills:** Basic computer skills such as word processing, spreadsheets, and Internet usage or a grade of “C” or better in BTEC 1418.

### Assessment Results and Prerequisites

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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Information is subject to change. This Program Requirements Guide is not a contract.

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Accreditation Council for Business Schools and Programs

384A (7217)
Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
ACCT 2410 Financial Accounting ...................... 4
BTEC 1421 Business Info Applications 1 ................. 3
BUSN 1410 Introduction to Business .................... 3
BUSN 1449 Business Communications .................. 3
BUSN 2465 Business Ethics ............................. 3
Total Semester Credits .................................. 16

Second Semester
BTEC 1410 Advanced Keyboarding Applications .... 3
BTEC 1423 Business Information Applications 2 ...... 4
Goal 1: ENGL 1711 Composition 1 ..................... 4
Goal 1: COMM 17XX .................................. 3
Total Semester Credits .................................. 14

Third Semester
BUSN 1520 Customer Service ............................. 3
BUSN 2450 Management Fundamentals ............... 3
BUSN 2472 Business Negotiation Skills ................. 3
Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning ............... 4
Total Semester Credits .................................. 14

Fourth Semester
BTEC 2410 Business Procedures ......................... 4
BTEC 2506 Business Information Applications 3  
(spring only) ............................................ 4
HSPM 1440 Event Management & Planning  
(spring only) ............................................ 3
Goal 5: ECON 1720 Macroeconomics OR
ECON 1730 Microeconomics ............................. 3
Goal 6: Humanities & Fine Arts .......................... 3
Total Semester Credits .................................. 16

Total Program Credits ................................. 60
Business CERTIFICATE

Program Overview
The business certificate consists of five business core classes that are required for all business degree majors. After completion, students may decide at that time which business degree program they would like to complete. This certificate provides a basic understanding of business.

Career Opportunities
There are many opportunities in the business area based on the individual’s strengths and interests. Employment for entry level positions is expected to grow in the service and professional business industries. Students completing the Business Certificate can provide support for businesses.

Program Outcomes
1. Graduates will possess the basic knowledge and skills for entry level employment in related business support areas.
2. Graduates will be proficient in Microsoft Office applications.
3. Graduates will have understanding of core business practices.
4. Graduates will be knowledgeable in the use of business administration skills.

Program Requirements
☐ Check off when completed

Course Cr
☐ ACCT 2410 Financial Accounting  .............. 4
☐ BTEC 1421 Business Information Applications 1 ... 3
☐ BUSN 1410 Introduction to Business ............ 3
☐ BUSN 1449 Business Communications ............. 3
☐ BUSN 2465 Business Ethics  ................... 3

Total Program Credits  . . . . . . . . . . . . . . . . . . 16

Program Faculty
Alli Vainshtein  alli.vainshtein@saintpaul.edu  651.846.1529

Part-time/Full-time Options
Classes are offered day, evening, weekend and online. Students may attend full-time or part-time.

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student. Students can complete this certificate in one semester. All courses are offered fall, spring and summer semester.

First Semester
ACCT 2410 Financial Accounting ................. 4
BTEC 1421 Business Information Applications 1 .... 3
BUSN 1410 Introduction to Business .............. 3
BUSN 1449 Business Communications ............. 3
BUSN 2465 Business Ethics  ...................... 3

Total Program Credits  . . . . . . . . . . . . . . . . . . 16

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of "C" or better in READ 0722
Writing: Score of 78+ or grade of "C" or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
Customer Service Office Support

CERTIFICATE

Program Overview
This program provides entry level training for a customer service position. Students will learn how to resolve conflict, develop listening skills, interpersonal and problem solving skills. The program covers Microsoft Office Software: Excel, Word, PowerPoint, Access and Outlook. Students will also learn communication, teamwork, and other business professional skills.

Career Opportunities
1. Customer Service Representative
2. Account Representative
3. Bank Teller

Program Outcomes
1. Graduates will possess the basic knowledge and skills required for entry level customer service roles.
2. Graduates will reflect professional standards, ethics, and social responsibility.
3. Graduates will develop skills in effective communication, problem solving techniques, and professional behavior.

Program Faculty
Alli Vainshtein  alli.vainshtein@saintpaul.edu
651.846.1529

Class Options
This program can be completed by using a combination of day, evening, and online classes. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Required Courses  Cr
☐ BTEC 1410 Advanced Keyboarding .................. 3
☐ BTEC 1421 Business Information Applications 1 ... 3
☐ BTEC 1423 Business Information Applications 2  .. 4
☐ BTEC 1530 Communication Technology ............. 4
☐ BTEC 2410 Business Procedures ................. 4
☐ BUSN 1449 Business Communications .......... 3
☐ BUSN 1520 Customer Service ................. 3
☐ BUSN 2465 Business Ethics .................... 3
Subtotal ........................................... 27

Total Program Credits .................................. 27

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of C or better in READ 0722
Writing: Score of 78+ or grade of C or better in ENGL 0922
Arithmetic: Score of 20+
Keyboarding Skills: Minimum of 25 WPM with 3 errors or less or a grade of C or better in BTEC 1400
Computer Skills: Basic computer skills such as word processing, spreadsheets, and Internet usage or a grade of C or better in BTEC 1418.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full time student; however, this sequence is not required. Contact Program Faculty for questions.

First Semester
BTEC 1410 Advanced Keyboarding .................. 3
BTEC 1421 Business Information Applications 1 ... 3
BTEC 1423 Business Information Applications 2  .. 4
BTEC 1530 Communication Technology ............. 4
BTEC 2410 Business Procedures ................. 4
BUSN 1449 Business Communications .......... 3
BUSN 1520 Customer Service ................. 3
BUSN 2465 Business Ethics .................... 3
Total Semester Credits .................................. 13

Second Semester
BTEC 1423 Business Information Applications 2  .. 4
BTEC 1530 Communication Technology (spring only) .... 4
BTEC 2410 Business Procedures ................. 4
BUSN 2465 Business Ethics .................... 3
Total Semester Credits .................................. 14
Total Program Credits .................................. 27

Information is subject to change.
This Program Requirements Guide is not a contract.
Business Transfer Pathway AS DEGREE

Program Overview
This degree is designed for students to continue their education in business towards a bachelor’s degree at four-year institutions. Bachelor degree majors include Management, Marketing, Accounting, Human Resources, and International Business. The Business Transfer Pathway 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. This program is also available completely online.

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 relation skills and enthusiasm for the job and organization. Graduates should continue their education towards a bachelor’s degree or begin work in a variety of settings. Graduates can explore opportunities that match their interests and education in a variety of industries.

Program Outcomes
1. Graduates will have the skills, knowledge, and abilities, in core business functions.
2. Graduates will have a basic understanding of the ethics that impact the business environment.
3. Graduates will be prepared to transfer to another college or university to complete a bachelor’s program.
4. Graduates will have successfully mastered the general education requirements for work and life roles.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below. For more information please go to saintpaul.edu/Transfer.

Business Transfer Pathway AS

| BS | Management (Human Resource or Business emphasis) Minnesota State University, Mankato |
| BS | Management St. Cloud State University |
| BS | Management (General Management, Human Resource Management, Supply Chain Management concentrations) Southwest Minnesota State University |

Program Faculty
- Craig Maus craig.maus@saintpaul.edu 651.846.1531
- Susan Senger susan.senger@saintpaul.edu 651.846.1519
- Anna Ouattara anna.ouattara@saintpaul.edu 651.846.1717

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Program Requirements
- Check off when completed

<table>
<thead>
<tr>
<th>Required Business Core</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Component</td>
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</tr>
<tr>
<td>□ ACCT 2410 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>□ BTEC 1421 Business Information Applications 1</td>
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</tr>
<tr>
<td>□ BUSN 1410 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>□ BUSN 1449 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>□ BUSN 2465 Business Ethics</td>
<td>3</td>
</tr>
<tr>
<td>Subtotal</td>
<td>16</td>
</tr>
</tbody>
</table>

Course
- ACCT 2420 Managerial Accounting: 4
- BUSN 1480 Business Career Resources: 1
- BUSN 2110 Principles of Marketing: 3
- BUSN 2450 Management Fundamentals: 3
- BUSN 2470 Legal Environment of Business: 3

| Subtotal | 14 |

General Education/MnTC Requirements
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

| Goal 1: Communication | 9 |
| ENGL 1711 Composition 1 | 4 |
| ENGL 1712 Composition 2 | 2 |
| COMM 170X - 3c |
| Goal 2: Natural Science | 4 |
| BIOL 1725 Environmental Science | 2 |
| Goal 4: Mathematical/Logical Reasoning | 7 |
| MATH 1730 College Algebra | |
| MATH 1740 Introduction to Statistics | 4 |
| Goal 5: History, Social Science and Behavioral Sciences | 6 |
| ECON 1720 Macroeconomics | 3 |
| ECON 1730 Microeconomics | 3 |
| Goal 6: Humanities and Fine Arts | 3 |
| Goals 1-10 of the Minnesota Transfer Curriculum | 1 |

| Select a minimum of 1 additional credits |
| General Education Requirements | 30 |
| Total Program Credits | 60 |

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
- ACCT 2410 Financial Accounting | 4
- BUSN 1410 Introduction to Business | 3
- BUSN 1449 Business Communications | 3
- Goal 1: ENGL 1711 Composition 1 | 4
- Goal 4: MATH 1730 College Algebra | 3
- Total Semester Credits: 16

Second Semester
- BTEC 1421 Business Information Applications 1 | 3
- BUSN 2110 Principles of Marketing | 3
- BUSN 2465 Business Ethics | 3
- Goal 4: MATH 1740 Introduction to Statistics | 4
- Total Semester Credits: 14

Third Semester
- ACCT 2420 Managerial Accounting | 4
- BUSN 1480 Business Career Resources | 1
- BUSN 2450 Management Fundamentals | 3
- BUSN 2470 Legal Environment of Business | 3
- Goal 5: ECON 1720 Macroeconomics | 3
- Goal 1: COMM 17XX | 3
- Total Semester Credits: 16

Fourth Semester
- Goal 1: ENGL 1712 Composition 2 | 2
- Goal 3: BIOL 1725 Environmental Science | 4
- BUSN 1480 Business Career Resources | 1
- Goal 5: ECON 1730 Microeconomics | 3
- Goal 6: Humanities and Fine Arts | 3
- Mn Transfer Curriculum | 1
- Total Semester Credits: 14
- Total Program Credits: 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
- Reading: Score of 78+ or grade of “C” or better in READ 0722
- Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922

College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

The mission of the Business Department at Saint Paul College is to sustain the student population.

Accreditation Council for Business Schools and Programs

ACBSP

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**Nonprofit Certificate**

**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 employee 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, 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.

**Program Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2410 Financial Accounting</td>
<td>4</td>
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<tr>
<td>BUSN 1449 Business Communications</td>
<td>3</td>
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<tr>
<td>BUSN 2440 Fundamentals of Nonprofit Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2441 Fundraising Techniques</td>
<td>1</td>
</tr>
<tr>
<td>BUSN 2442 Grant Writing and Research</td>
<td>1</td>
</tr>
<tr>
<td>BUSN 2443 Dynamics of Board Relations</td>
<td>1</td>
</tr>
<tr>
<td>BUSN 2444 Volunteer Program Management</td>
<td>1</td>
</tr>
<tr>
<td>BUSN 2445 Nonprofit Law and Ethics</td>
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</tr>
<tr>
<td>BUSN 2450 Management Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2465 Business Ethics</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2472 Business Negotiation Skills</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2473 Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Program Credits** . . . . . . . . . . . . . . . . . . . . . . 27

**Part-time/Full-time Options**
Some day, evening, Saturday and online class availability. Students may attend full-time or part-time.

**Program Faculty**
Susan Senger  susan.senger@saintpaul.edu  651.846.1519

**Program Start Dates**
Fall, Spring, Summer

**Course Sequence**
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

**First Semester**
- ACCT 2410 Financial Accounting ................. 4
- BUSN 1449 Business Communications .............. 3
- BUSN 2440 Fundamentals of Nonprofit Management 3
- BUSN 2444 Volunteer Program Management ....... 1
- BUSN 2445 Nonprofit Law and Ethics ............. 1
- Total Semester Credits ........................... 12

**Second Semester**
- BUSN 2441 Fundraising Techniques ............... 1
- BUSN 2442 Grant Writing and Research .......... 1
- BUSN 2443 Dynamics of Board Relations ......... 1
- BUSN 2450 Management Fundamentals ............. 3
- BUSN 2465 Business Ethics ....................... 3
- BUSN 2472 Business Negotiation Skills .......... 3
- BUSN 2473 Project Management ................... 3
- Total Semester Credits ........................... 15
- Total Program Credits ............................. 27

**Minimum Program Entry Requirements**
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ or grade of "C" or better in READ 0722
**Writing:** Score of 78+ or grade of "C" or better in ENGL 0922
**Arithmetic:** Score of 20+

**Assessment Results and Prerequisites:**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

**Degree option may have a greater requirement than this certificate.**
Program Requirements

Required Business Core (16 credits)

- BSLM 2420 Supply Chain Management (4)
- BSLM 2450 Procurement Principles and Applications (3)
- BUSN 1760 Principles of Finance (4)
- BUSN 2410 Critical Thinking for Business Decision Making (3)
- BUSN 2450 Management Fundamentals (3)
- BUSN 2464 Leading and Coaching Others (2)
- BUSN 2472 Business Negotiation Skills (3)
- BUSN 2473 Project Management (3)
- HMRS 1400 Human Resource Management (3)

Total Program Credits: 60

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Program Management AAS

BA Individualized Studies
Metropolitan State University

BS Business Administration
Saint Mary's University-Twin Cities Campus

BS Project Management
Minnesota State University-Moorhead

Program Faculty

- Susan Senger, susan.senger@saintpaul.edu, 651.846.1519
- Anna Ouattara, anna.ouattara@saintpaul.edu, 651.846.1717

Program Start Dates

Fall, Spring, Summer

Course Sequence

This course sequence is recommended for a full-time student; however, this sequence is not required.

First Semester

- ACCT 2410 Financial Accounting (4)
- BTEC 1421 Business Info Applications (3)
- BUSN 1410 Introduction to Business (3)
- BUSN 1449 Business Communications (3)
- Goal 1: ENGL 1711 Composition I (4)

Total Semester Credits: 17

Second Semester

- BSLM 2420 Supply Chain Management (spring only) (4)
- BSLM 2450 Procurement Principles and Applications (spring only) (3)
- BUSN 2450 Management Fundamentals (3)
- BUSN 2473 Project Management (spring only) (3)
- Goal 1: COMM 17XX (3)

Total Semester Credits: 16

Third Semester

- BUSN 2465 Business Ethics (3)
- BUSN 2472 Business Negotiation Skills (or spring only) (3)
- Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics (3)
- HMRS 1400 Human Resource Management (3)

Total Semester Credits: 12

Fourth Semester

- BUSN 1760 Principles of Finance (4)
- BUSN 2410 Critical Thinking for Business Decision Making (spring only) (3)
- BUSN 2464 Leading and Coaching (spring only) (2)
- Goal 3 or 4: Natural Sciences OR Environmental Science OR Mathematical/Logical Reasoning (3)
- Goal 6: Humanities & Fine Arts (3)
- Mn Transfer Curriculum (1)

Total Semester Credits: 15

Total Program Credits: 60

Minimum Program Entry Requirements

- Reading: Score of 78+ or grade of "C" or better in READ 0722
- Writing: Score of 78+ or grade of "C" or better in ENGL 0922
- Arithmetic: Score of 20+

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment tests and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.

This Program Requirements Guide is not a contract.

The mission of the Business Department at Saint Paul College is to sustain the College mission by providing quality, lifelong business education supported by technology for a diverse, metropolitan student population.

Accreditation Council for Business Schools and Programs

ACSBP ACCREDITED
Project Management CERTIFICATE

Program Overview
Project management is used throughout business to make sure an organization achieves its objectives. A project management certificate prepares students with the tools, skills, and knowledge necessary to initiate, plan, and implement projects successfully. Project planning topics include various types of business projects with special focus on information technology projects to help provide an overview of project management. Techniques such as work breakdown structures, network diagrams, critical path method, earned value analysis, various financial analysis templates and others are covered in the courses.

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 relation skills and enthusiasm for the job and organization. Graduates may choose to continue their education towards a bachelor's degree or begin work in a variety of settings. Graduates can explore opportunities that match their interests and education in a variety of industries.

Program Outcomes
1. Graduates will have the skills, knowledge, and abilities in project management.
2. Graduates will have a basic understanding of project planning.
3. Graduates will have the skills and knowledge necessary to initiate, plan, and implement projects successfully.

Program Faculty
Susan Senger       susan.senger@saintpaul.edu
651.846.1519

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, online and Saturday courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed
Course      Cr
☐ BSLM 2450 Procurement Principles and Applications ..................... 3
☐ BTEC 1421 Business Information Applications .................. 3
☐ BUSN 1449 Business Communications .................................. 3
☐ BUSN 1760 Principles of Finance ........................................ 4
☐ BUSN 2464 Leading and Coaching Others (spring only) .... 2
☐ BUSN 2472 Business Negotiation Skills ................................. 3
☐ BUSN 2473 Project Management ........................................ 3
Total Program Credits .................................................. 21

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
BTEC 1421 Business Information Applications ................. 3
BUSN 1449 Business Communications ......................... 3
BUSN 2472 Business Negotiation Skills ......................... 3
Total Semester Credits .............................................. 9

Second Semester
BSLM 2450 Procurement Principles and Applications
(spring only) .................................................. 3
BUSN 1760 Principles of Finance .............................. 4
BUSN 2464 Leading and Coaching Others
(spring only) .............................................. 2
BUSN 2473 Project Management
(spring only) .............................................. 3
Total Semester Credits .............................................. 12
Total Program Credits .............................................. 21

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 38+
Writing: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Degree option may have a greater requirement than this certificate.
Entrepreneurship CERTIFICATE

Program Overview
Many people dream of owning their own business for financial and professional independence as well as the pride of ownership. A certificate in Entrepreneurship can help make that dream become a reality, by providing students with the skills and knowledge necessary to launch a successful business. In this certificate 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 an entrepreneurial spirit. Students will analyze how an organization contributes to society and how entrepreneurship and commercial activities affect the environment. They will also 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 certificate will help the small business entrepreneur maximize the skills and abilities necessary to do business in our challenging environment.

Career Opportunities
Employment opportunities are excellent for starting your own business.

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.

Program Faculty
Susan Senger susan.senger@saintpaul.edu 651.846.1519

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday, and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Course Cr
☐ ACCT 1523 Accounting Computer Applications ............................. 3
☐ BTEC 1421 Business Information Applications ............................. 3
☐ BUSN 1492 Social Media and Marketing ................................ 3
☐ BUSN 2450 Management Fundamentals ................................ 3
☐ BUSN 2455 Essentials of Entrepreneurship & Small Business Management ................................ 3
☐ BUSN 2470 Legal Environment of Business ................................ 3
☐ BUSN 2472 Business Negotiation Skills ................................ 3
☐ BUSN 2482 Entrepreneurship Capstone ................................ 3

Total Program Credits .......................................................... 24

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
BTEC 1421 Business Information Applications ............................. 3
BUSN 2455 Essentials of Entrepreneurship & Small Business Management (fall only) ......................................................... 3
BUSN 2470 Legal Environment of Business ................................ 3
BUSN 2472 Business Negotiation Skills ................................ 3
Total Semester Credits .............................................................. 12

Second Semester
ACCT 1523 Accounting Computer Applications ............................. 3
BUSN 1492 Social Media and Marketing (spring only) ...................... 3
BUSN 2450 Management Fundamentals ................................ 3
BUSN 2482 Entrepreneurship Capstone (spring only) ...................... 3
Total Semester Credits .............................................................. 12

Total Program Credits .............................................................. 24

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+
Writing: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Requirements Guide 2018 - 2019

Finance AS DEGREE

Program Overview
This degree is designed for students to continue their education in finance towards a bachelor's degree at four-year institutions. Students taking this degree would be planning to major in Finance or Accounting. The Finance AS degree prepares students for finance responsibilities. Students learn about the functions of business, including accounting, management, marketing, and human resources. Students study a broad background of finance, business and liberal arts subjects that prepare them for entry-level positions in finance.

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

Program Outcomes
1. Graduates will have the skills, knowledge, and abilities in core business functions.
2. Graduates will have a basic understanding of the ethics that impact the business environment.
3. Graduates will be prepared to transfer to another college or university to complete a bachelors program.
4. Graduates will have successfully mastered the general education requirements for work and life roles.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Finance AS
BA Accounting (Cohort)
Concordia University, St. Paul
BA Business Management (Traditional)
Concordia University, St. Paul
BA Individualized Studies
Metropolitan State University
BS Accounting
Saint Mary's University-Twin Cities Campus
BS Business (Cohort)
Concordia University, St. Paul
BS Business Administration
Saint Mary's University-Twin Cities Campus
BS Finance
Metropolitan State University
BS Finance (Traditional)
Concordia University, St. Paul

Program Faculty
Kendal Loewen kendal.loewen@saintpaul.edu
651.846.1528
Jim O'Halloran james.o’halloran@saintpaul.edu
651.846.1436

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Required Business Core

- Course
- Cr

☐ BUSN 1760 Principles of Finance ................. 4
☐ BUSN 1762 Money and Banking ................. 4
☐ BUSN 1782 Investments ........................ 3
☐ BUSN 1784 Principles of Risk Mgmt. & Insurance .. 3

Subtotal: ............................................. 16

General Education/MnTC Requirements

☐ Course
- Cr

☐ Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ...................... 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 2: Natural Sciences ..................... 4
BIOL 1725 Environmental Science - 4 cr
☐ Goal 4: Mathematical/Logical Reasoning .... 7
MATH 1730 College Algebra - 3 cr
MATH 1740 Introduction to Statistics - 4 cr
☐ Goal 5: History, Social Science and Behavioral Sciences ....................... 6
ECON 1720 Macroeconomics – 3 cr
ECON 1730 Microeconomics – 3 cr
☐ Goal 6: Humanities and Fine Arts ............. 3
Goals 1-10 of the Minnesota Transfer Curriculum .... 3
Select a minimum of 3 additional credits

Total Program Credits .................................. 60

Program Start Dates
Fall, Spring, Summer

Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
ACCT 2410 Financial Accounting .................... 4
BTEC 1421 Business Info Applications 1 ...... 3
BUSN 1410 Introduction to Business ........... 3
Goal 1: ENGL 1711 Composition 1 ............... 4
Total Semester Credits ................................ 14

Second Semester
BUSN 1760 Principles of Finance ................... 4
BUSN 2465 Business Ethics ......................... 3
Goal 5: ECON 1720 Macroeconomics ............. 3
Goal 1: COMM 17XX .............................. 3
Goal 6: Humanities and Fine Arts ................. 3
Total Semester Credits ................................ 16

Third Semester
BUSN 1449 Business Communications ........... 3
BUSN 1782 Investments ............................. 3
BUSN 1784 Principles of Risk Mgmt. & Insurance .. 3
Goal 4: MATH 1740 Introduction to Statistics ...... 4
Total Semester Credits ................................ 13

Fourth Semester
BUSN 1762 Money and Banking .................... 4
Goal 3: BIOL 1725 Environmental Sciences ...... 4
Goal 4: MATH 1730 College Algebra ............... 3
Goal 5: ECON 1730 Microeconomics ............... 3
Goal 1-10 General Education Electives ........... 3
Total Semester Credits ................................ 17

Total Program Credits .............................. 60

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Contact Program Faculty with questions.

The mission of the Business Department at Saint Paul College is to sustain the College mission by providing quality lifelong business education supported by technology for a diverse, metropolitan student population.

ACBSP ACCREDITED
Accreditation Council for Business Schools and Programs

Information is subject to change.
This Program Requirements Guide is not a contract.

362S (7209)
Global Trade Specialist  AAS DEGREE

Program Overview
The global 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 global trade. In Minnesota, many businesses engage in global trade, with a dramatic increase in trade activity expected within five years.

A career in global trade offers you the opportunity to work in the global marketplace. The Global 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, filing overseas orders, handling customer matters and determining tariff rates for the entry of foreign goods through U.S. Customs. Job titles include: Global Sales/Marketing Assistant, Global Customer Service Coordinator, Export-Import Coordinator, Global Banker and Global 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 global 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 Global Trade Specialists via internships.
4. Graduates will be prepared for employment as Global Trade Specialists.
5. Graduates will have knowledge and skills in customer service.
6. Graduates will have critical thinking skills.

Program Faculty
Susan Senger  susan.senger@saintpaul.edu  651.846.1519
Anna Ouattara  anna.ouattara@saintpaul.edu  651.846.1717

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Required Business Core
Course Cr
☐ ACCT 2410 Financial Accounting 1 ............. 4
☐ BTEC 1421 Business Information Applications 1 ... 3
☐ BUSN 1410 Introduction to Business ............ 3
☐ BUSN 1449 Business Communications .......... 3
☐ BUSN 2465 Business Ethics ................... 3
☐ 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 2530 International Marketing ............. 3
Subtotal ........................................ 28

General Education/MnTC Requirements
☐ Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ........................ 7
☐ ENGL 1711 Composition 1 – 4 cr
☐ COMM 17XX – 3 cr
☐ Goal 3: Natural Sciences OR
☐ Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science, and Behavioral Sciences .......................... 3
☐ ECON 1720 Macroeconomics – 3 cr OR
☐ ECON 1730 Microeconomics – 3 cr
☐ Goal 6: Humanities and Fine Arts ................. 3
☐ General Education Requirements .............. 16

Total Program Credits ......................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
☐ Reading: Score of 78+ or grade of “C” or better in READ 0722
☐ Writing: Score of 78+ or grade of “C” or better in ENGL 0922
☐ Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Start Dates
Fall, Spring, Summer

Course Sequence
The course sequence listed on the back of this guide is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.
For more information please go to saintpaul.edu/transfer.

Global Trade Specialist AAS
BA Individualized Studies
Metropolitan State University
BAS International Commerce
Metropolitan State University
BS Applied Organizational Studies
Minnesota State University-Mankato
BS Business Administration
Saint Mary’s University-Twin Cities Campus
BS Project Management
Minnesota State University Moorhead

Information is subject to change. This Program Requirements Guide is not a contract.
Global Trade Specialist  AAS DEGREE (continued)

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
ACCT 2410 Financial Accounting 1  ............... 4
BTEC 1421 Business Info Applications 1 ............ 3
BUSN 1410 Introduction to Business ................. 3
BUSN 1449 Business Communications ............. 3
Goal 1: ENGL 1711 Composition 1 ................ 4
Total Semester Credits ............................... 17

Second Semester
BSLM 2420 Supply Chain Management 
    (spring only) ...................................... 4
INTL 1400 Introduction to International Business 
    (spring only) ...................................... 3
INTL 1512 Export Shipping and Compliance 
    (spring only) ...................................... 3
Goal 1: COMM 17XX .................................. 3
Total Semester Credits ............................... 13

Third Semester
BSLM 1410 Transportation Management 
    (fall only) ......................................... 3
BSLM 1510 Distribution Management 
    (fall only) ......................................... 3
BUSN 2465 Business Ethics  ......................... 3
INTL 1410 International Communications and 
    Cultural Awareness (fall only) ................. 3
INTL 2530 International Marketing 
    (fall only) ......................................... 3
Total Semester Credits ............................... 15

Fourth Semester
BUSN 2472 Business Negotiation Skills ............ 3
INTL 2420 U.S. Customs and Importing 
    (spring only) ...................................... 3
Goal 3 or 4: Natural Sciences OR 
    Mathematical/Logical Reasoning ............... 3
Goal 5: ECON 1720 Macroeconomics OR 
    ECON 1730 Microeconomics ..................... 3
Goal 6: Humanities and Fine Arts ................... 3
Total Semester Credits ............................... 15

Total Program Credits ............................... 60
Global Trade Professional CERTIFICATE

Program Overview
This certificate is transferable to the Global Trade Specialist AAS program.

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

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

A career in global trade offers you the opportunity to work in the global marketplace. The Global 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 foreign orders, and determining tariff rates for the entry of foreign goods through U.S. Customs. Job titles include: Global Sales/Marketing Assistant, Global Marketing Communication Coordinator, Global Documentation Specialist, Global Customer Service Coordinator, Export-Import Coordinator, Global Banker and Global Transportation Coordinator.

This program also provides an excellent foundation for individuals wanting to be entrepreneurs in the import/export business. The Global Trade Specialist Program will provide you with knowledge and skills that will prepare you for successful performance as Global Trade Specialists via internships.

Program Faculty
Susan Senger susan.senger@saintpaul.edu 651.846.1519
Anna Ouattara anna.ouattara@saintpaul.edu 651.846.1717

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Admission Requirements
Applicants are required to have a high school diploma or equivalent.

The global 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.

Program Requirements
☐ Check off when completed

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

Program Faculty approval is required.

Course Cr
☐ BSLM 2420 Supply Chain Management  .......... 4
☐ INTL 1410 International Communication and Cultural Awareness  .......... 3
☐ INTL 1512 Export Shipping and Compliance  ...... 3
☐ INTL 2420 U. S. Customs and Importing  .......... 3
☐ INTL 2530 International Marketing  .......... 3

Total Program Credits  .......... 16

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
INTL 1410 International Communication and Cultural Awareness (fall only).  .......... 3
INTL 2530 International Marketing (fall only)  .......... 3
Total Semester Credits  .......... 6

Second Semester
BSLM 2420 Supply Chain Management (spring only)  ................ 4
INTL 1512 Export Shipping and Compliance (spring only)  .......... 3
INTL 2420 U. S. Customs and Importing (spring only)  .......... 3
Total Semester Credits  .......... 10

Total Program Credits  .......... 16

Minimum Program Entry Requirements
Contact Faculty Susan Senger, at 651.846.1519 or susan.senger@saintpaul.edu
Anna Ouattara at 651.846.1717 or anna.ouattara@saintpaul.edu

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+
Writing: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
Hospitality Management  AAS DEGREE

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 and careers in lodging, tourism, sports, entertainment, event and meeting management.

Career Opportunities
According to the Minnesota Department of Revenue and the Minnesota Department of Employment and Economic Development, there are 245,000 full and part-time jobs, and 4.3 billion dollars in wages in the Leisure and Hospitality sector.

Employment opportunities include 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.

The hospitality industry provides ample opportunity for students to gain management experience. In a very short number of years after graduation, a student could be a manager of a multi-million dollar business/hospitality operation. The skills, experience and abilities gained in hospitality are transferable to other businesses and industries. With a Hospitality Management AAS degree students differentiate themselves from other candidates when applying for positions.

Program Outcomes
1. Graduates will demonstrate successful management concepts and practices in Hospitality.
2. Graduates will describe the interrelated nature of Hospitality Travel, Entertainment, Recreation and Tourism.
3. Graduates will develop customer service, service spirit and communication skills.
4. Graduates will demonstrate problem solving skills and integrate new ways of thinking and learning.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Hospitality Management AAS
BA Individualized Studies
Metropolitan State University
BA Travel and Tourism
St. Cloud State University
BS Marketing
St. Mary's University-Twin Cities Campus
BS Project Management
Minnesota State University Moorhead

Program Faculty
Craig Maus  craig.maus@saintpaul.edu
651.846.1531

Program Requirements
☑ Check off when completed

Required Business Core

Professional Component
☐ ACCT 2410 Financial Accounting ............... 4
☐ BTEC 1421 Business Information Applications 1 ... 3
☐ BUSN 1410 Introduction to Business ............. 3
☐ BUSN 1449 Business Communications .......... 3
☐ BUSN 2465 Business Ethics .................... 3

Required Business Core ................................ 16

Course Cr
☐ BUSN 1441 Consumer Behavior ................ 3
☐ BUSN 1446 Sales and Account Management .... 3
☐ BUSN 1480 Business Career Resources ......... 1
☐ BUSN 2110 Principles of Marketing ............ 3
☐ BUSN 2450 Management Fundamentals ......... 3
☐ BUSN 2472 Business Negotiation Skills ........ 3
☐ HSPM 1410 Introduction to Hospitality Management .................. 3
☐ HSPM 1440 Event Management and Planning .... 3
☐ HSPM 2420 Hotel and Lodging Operations ...... 3
☐ HSPM 2440 Hospitality Marketing and Sales ...... 3

Subtotal ................................................. 28

General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication .......................... 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 3 or Goal 4 .......................... 3
Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science, and Behavioral Sciences .................. 3
ECON 1720 Macroeconomics – 3 cr OR
ECON 1730 Microeconomics – 3 cr
☐ Goal 6: Humanities and Fine Arts ............. 3

General Education Requirements .................. 16

Total Program Credits .............................. 60

Program Requirements Guide 2018 - 2019
Saint Paul College—A Community & Technical College • 2018–2019 Catalog
## Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

### First Semester
- ACCT 2410 Financial Accounting .................. 4
- BTEC 1421 Business Info Applications 1 .......... 3
- BUSN 1410 Introduction to Business ............. 3
- HSPM 1410 Introduction to Hospitality Management (fall only) .................. 3
- Goal 1: ENGL 1711 Composition 1 ................ 4

**Total Semester Credits** .................. 17

### Second Semester
- BUSN 1480 Business Career Resources ............ 1
- BUSN 2110 Principles of Marketing  ................ 3
- BUSN 2450 Management Fundamentals ............ 3
- HSPM 1440 Event Management and Planning (spring only) .................. 3
- Goal 1: COMM 17XX .......................... 3

**Total Semester Credits** .................. 13

### Third Semester
- BUSN 1441 Consumer Behavior (fall only) ........ 3
- BUSN 2472 Business Negotiation Skills .......... 3
- HSPM 2420 Hotel and Lodging Operations (fall only) .................. 3
- HSPM 2440 Hospitality Marketing and Sales (fall only) .................. 3
- Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics .................. 3

**Total Semester Credits** .................. 15

### Fourth Semester
- BUSN 1446 Sales and Account Management (spring only) .................. 3
- BUSN 1449 Business Communications ............. 3
- BUSN 2465 Business Ethics ...................... 3
- Mn Transfer Curriculum ........................ 6

**Total Semester Credits** .................. 15

**Total Program Credits** .................. 60
Program Requirements Guide

Event and Meeting Management CERTIFICATE

Program Overview
The Event and Meeting Management curriculum focuses on the management of special events planning, organizing activities and timelines, operational effectiveness and customer satisfaction. Students will receive a solid foundation of business practices related to this growing service industry.

This certificate is intended for those seeking to expand their career paths with the skills necessary to plan efficient and effective events and meetings.

Career Opportunities
According to the Minnesota Department of Revenue and the Minnesota Department of Employment and Economic Development, there are 245,000 full and part-time jobs, and 4.3 billion dollars in wages in the Leisure and Hospitality sector.

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.

Program Outcomes
1. Graduates will have knowledge of the meeting and special event industry.
2. Graduates will develop customer service, human relations and communications skills.
3. Graduates will have knowledge and skills to plan, manage and promote meeting and special events.

Program Faculty
Craig Maus  craig.maus@saintpaul.edu  651.846.1531

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, and Web-enhanced courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Course  Cr
☐ BUSN 2110 Principles of Marketing .................. 3
☐ BUSN 2450 Management Fundamentals ............ 3
☐ BUSN 2455 Essentials of Entrepreneurship & Small Business Management ............ 3
☐ HSPM 1410 Introduction to Hospitality Management .................... 3
☐ HSPM 1440 Event Management and Planning .......... 3
☐ HSPM 2440 Hospitality Marketing and Sales ........ 3

Total Program Credits  ......................... 18

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
BUSN 2455 Essentials of Entrepreneurship & Small Business Management ............ 3
HSPM 1410 Introduction to Hospitality Management (fall only) ............ 3
HSPM 2440 Hospitality Marketing and Sales (fall only) ............ 3
Total Semester Credits  ......................... 9

Second Semester
BUSN 2110 Principles of Marketing ............ 3
BUSN 2450 Management Fundamentals ............ 3
HSPM 1440 Event Management and Planning (spring only) ............ 3
Total Semester Credits  ......................... 9

Total Program Credits  ......................... 18

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements in addition to having acquired previous technical computer skills:

Reading: Score of 38+
Writing: Score of 38+
Arithmetic: Score of 20+
Degree option may have a greater requirement than this certificate.

Information is subject to change.
This Program Requirements Guide is not a contract.
Human Resources AAS DEGREE

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

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 strong 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.

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 relation issues and to communicate effectively in a work environment.
3. Graduates will have the skills, knowledge, and abilities in applicable federal, state, and local employment regulations and a working knowledge of basic employment laws.
4. Graduates will be prepared for employment in the field of human resources (in a variety of positions).
5. Graduates will have successfully mastered the general education requirements for work and life roles.

Program Faculty
Mindy Travers  
mindy.travers@saintpaul.edu
651.846.1526

Approved Provider of Courses for Recertification
The Human Resource Certification Institute has recognized Saint Paul College as an approved provider of educational courses for recertification of the PHR or SPHR certification.

The Human Resources Program at Saint Paul College is the only program of its kind in the Metro Area.

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part time and full time options are available.

Program Requirements
☐ Check off when completed

Required Business Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>ACCT 2410 Financial Accounting</td>
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<td>BUSN 1410 Introduction to Business</td>
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</tr>
<tr>
<td>BUSN 1449 Business Communications</td>
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</tr>
<tr>
<td>BUSN 2465 Business Ethics</td>
<td>3</td>
</tr>
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<td>HMRS 2420 Employment Law &amp; HR Policies</td>
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<td>HMRS 2410 Employee/Labor Relations</td>
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<td>HMRS 1490 Talent Management</td>
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<td>HMRS 1510 HR Information Systems &amp; Records</td>
<td>3</td>
</tr>
<tr>
<td>HMRS 1520 Compensation &amp; Benefits Administration</td>
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</tr>
<tr>
<td>HMRS 2410 Employee/Labor Relations</td>
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<td>HMRS 2420 Employment Law &amp; HR Policies</td>
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<td>Subtotal</td>
<td>26</td>
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</tbody>
</table>

Total Program Credits 60

Program Start Dates
Fall, Spring, Summer

Course Sequence
The course sequence listed on the back side of this guide is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

The following courses are not offered every semester:
- BUSN 2464 Leading and Coaching Others
- HMRS 1490 Human Resource Management
- HMRS 1510 HR Information Systems & Records
- HMRS 1520 Compensation & Benefits Administration
- HMRS 2410 Employee/Labor Relations
- HMRS 2420 Employment Law & HR Policies

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/transfer.

Human Resources AAS
- BA Business
  - Bethel University
- BA Individualized Studies
  - Metropolitan State University
- BS Applied Organizational Studies
  - Minnesota State University, Mankato
- BS Human Resource Management
  - Saint Mary’s University-Twin Cities Campus
- BS Project Management
  - Minnesota State University Moorhead

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in ENGL 0922
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
# Human Resources  AAS DEGREE (continued)

## Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Please be aware that most HMRS courses run once per academic year. Contact Program Faculty with questions.

### First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUSN 1410</td>
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<td>BUSN 1449</td>
<td>Business Communications</td>
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<td>BTEC 1421</td>
<td>Business Info Applications 1</td>
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<td>HMRS 1400</td>
<td>Human Resource Management</td>
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<tr>
<td>Goal 1: ENGL 1711 Composition 1</td>
<td>4</td>
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<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>16</strong></td>
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### Second Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ACCT 1515</td>
<td>Payroll Processing</td>
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<td>BUSN 1480</td>
<td>Business Career Resources</td>
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<td>BUSN 2464</td>
<td>Leading and Coaching Others</td>
<td>2</td>
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<tr>
<td>BUSN 2466</td>
<td>Managing Conflict &amp; Change (spring only)</td>
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<td>HMRS 1490</td>
<td>Talent Management</td>
<td>3</td>
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<tr>
<td>Goal 1: COMM 17XX</td>
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<td><strong>Total Semester Credits</strong></td>
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### Third Semester

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<tr>
<td>BUSN 2465</td>
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<td>Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics</td>
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<tr>
<td>HMRS 1510</td>
<td>HR Information Systems &amp; Records (fall only)</td>
<td>3</td>
</tr>
<tr>
<td>HMRS 1520</td>
<td>Compensation &amp; Benefits Administration (fall only)</td>
<td>3</td>
</tr>
<tr>
<td>HMRS 2410</td>
<td>Employee/Labor Relations (fall only)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>15</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Fourth Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCT 2410</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>HMRS 2420</td>
<td>Employment Law &amp; HR Policies (spring only)</td>
<td>3</td>
</tr>
<tr>
<td>Goal 3 or 4: Natural Sciences OR Mathematical/Logical Reasoning</td>
<td>3</td>
<td></td>
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<td>Goal 6: Humanities and Fine Arts</td>
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<td>Mn Transfer Curriculum</td>
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<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>15</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Program Credits** 60
Human Resources CERTIFICATE

Program Overview
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 certificate program is transferable to the Human Resources AAS program.

Career Opportunities
Employment opportunities are strong 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, Staffing Coordinator, Payroll Specialist, or Training and Development Assistant.

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 relation issues and to communicate effectively in a work environment.
3. Graduates will have the skills, knowledge, and abilities in applicable federal, state, and local employment regulations and a working knowledge of basic employment laws.
4. Graduates will be prepared for entry level employment in the field of human resources (in a variety of positions).

Approved Provider of Courses for Recertification
The Human Resource Certification Institute has recognized Saint Paul College as an approved provider of educational courses for recertification of the PHR or SPHR certification. The Human Resource Program at Saint Paul College is the only program of its kind in the Metro Area.

Additional Application Requirements
Interested applicants should submit transcripts from all colleges previously attended as part of the application process.

Program Faculty
Mindy Travers  mindy.travers@saintpaul.edu
651.846.1526

Program Requirements
☐ Check off when completed

Course                          Cr
☐ ACCT 1515 Payroll Processing .................... 3
☐ BUSN 2464 Leading and Coaching Others .......... 2
☐ BUSN 2466 Managing Change and Conflict .......... 2
☐ HMRS 1400 Human Resources 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
Subtotal .................................. 25

Total Program Credits ................. 25

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Please be aware that most HMRS courses run once per academic year. Contact Program Faculty with questions.

First Semester
HMRS 1400 Human Resource Management ............ 3
HMRS 1510 HR Information Systems & Records .... 3
HMRS 1520 Compensation & Benefits Administration 3
HMRS 2410 Employee/Labor Relations .............. 3
Total Semester Credits .................. 12

Second Semester
ACCT 1515 Payroll Processing ....................... 3
BUSN 2464 Leading and Coaching Others .......... 2
BUSN 2466 Managing Conflict & Change .......... 2
HMRS 1490 Talent Management ...................... 3
HMRS 1520 Compensation & Benefits Administration 3
HMRS 2420 Employment Law & HR Policies ........ 3
Total Semester Credits .................. 13

Total Program Credits .................. 25

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
Marketing AAS DEGREE

Program Overview
This program provides students with the fundamentals of marketing and business management. Practices and concepts will be explored relating to sales, promotions, public relations, retail sales and event planning. Students will develop marketing and communication plans that create value and develop long term customer relationships.

Career Opportunities

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 products and services and deliver customer value.
3. Graduates will have knowledge and skills to attract new customers and retain existing customers.
4. Graduates will demonstrate problem solving skills and integrate new ways of thinking and learning.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Marketing AAS
BA Individualized Studies Metropolitan State University
BS Marketing Saint Mary’s University-Twin Cities Campus
BS Sales & Marketing Saint Mary’s University-Twin Cities Campus

Program Faculty
Craig Maus craig.maus@saintpaul.edu 651.846.1531

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday, and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Required Business Core

Course Cr
☐ BUSN 1441 Consumer Behavior ................ 3
☐ BUSN 1444 Advertising and Promotion Strategies ........ 3
☐ BUSN 1446 Sales and Account Management ....... 3
☐ BUSN 1480 Business Career Resources .......... 1
☐ BUSN 1490 E-Marketing .......................... 3
☐ BUSN 1492 Social Media Marketing .......... 3
☐ BUSN 2110 Principles of Marketing .......... 3
☐ BUSN 2450 Management Fundamentals ........ 3
☐ BUSN 2472 Business Negotiation Skills .......... 3
☐ BUSN 1440 Event Management and Planning ...... 3

Subtotal .............................................. 28

Required Business Core 

Course Cr
☐ BUSN 1492 Social Media Marketing .......... 3
☐ BUSN 1446 Sales and Account Management ....... 3
☐ BUSN 1444 Advertising and Promotion Strategies ........ 3
☐ BUSN 1480 Business Career Resources .......... 1
☐ BUSN 1490 E-Marketing .......................... 3
☐ BUSN 1492 Social Media Marketing .......... 3
☐ BUSN 2110 Principles of Marketing .......... 3
☐ BUSN 2450 Management Fundamentals ........ 3
☐ BUSN 2472 Business Negotiation Skills .......... 3
☐ HSPM 1440 Event Management and Planning ...... 3

Subtotal .............................................. 28

General Education/MnTC Requirements

Course Cr
☐ BUSN 1441 Consumer Behavior ................ 3
☐ BUSN 1444 Advertising and Promotion Strategies ........ 3
☐ BUSN 1446 Sales and Account Management ....... 3
☐ BUSN 1480 Business Career Resources .......... 1
☐ BUSN 1490 E-Marketing .......................... 3
☐ BUSN 1492 Social Media Marketing .......... 3
☐ BUSN 2110 Principles of Marketing .......... 3
☐ BUSN 2450 Management Fundamentals ........ 3
☐ BUSN 2472 Business Negotiation Skills .......... 3
☐ HSPM 1440 Event Management and Planning ...... 3

Subtotal .............................................. 28

Total Program Credits .................................. 60

Program Start Dates
Fall, Spring, Summer

Course Sequence
The course sequence listed on the back side of this guide is recommended for a full-time student; however, this sequence is not required.

The following courses are not offered every semester.

Fall Semester Only
The following courses are offered fall semester only.
BUSN 1441 Consumer Behavior
BUSN 1490 E-Marketing

Spring Semester Only
The following courses are offered spring semester only.
BUSN 1444 Advertising and Promotion Strategies
BUSN 1446 Sales and Account Management
BUSN 1492 Social Media Marketing
HSPM 1440 Event Management and Planning

All other courses are offered both fall and spring semester.

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
## Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

### First Semester

- **ACCT 2410 Financial Accounting** ........................................ 4
- **BTEC 1421 Business Info Applications 1** ............................... 3
- **BUSN 1410 Introduction to Business** .................................. 3
- **BUSN 2110 Principles of Marketing** ................................. 3
- **Goal 1: ENGL 1711 Composition 1** ................................. 4
- **Total Semester Credits** .................................................. 17

### Second Semester

- **BUSN 1444 Advertising and Promotional Strategies** (spring only) ................................................. 3
- **BUSN 1449 Business Communications** ......................... 3
- **HSPM 1440 Event Management and Planning** (spring only) ........................................................................ 3
- **BUSN 1446 Sales and Account Management** (spring only) .......................................................... 3
- **Goal 1: COMM 17XX** ................................................. 3
- **Total Semester Credits** .................................................. 15

### Third Semester

- **BUSN 1441 Consumer Behavior** (fall only) ......................... 3
- **BUSN 1490 E-Marketing** (fall only) ...................................... 3
- **BUSN 2450 Management Fundamentals** ......................... 3
- **Goal 5: ECON 1720 Macroeconomics OR**
  - ECON 1730 Microeconomics ............................................ 3
- **Total Semester Credits** .................................................. 12

### Fourth Semester

- **BUSN 1480 Business Career Resources** .......................... 1
- **BUSN 2465 Business Ethics** ............................................ 3
- **BUSN 2472 Business Negotiation Skills** ........................... 3
- **BUSN 1492 Social Media Marketing** (spring only) .......... 3
- **Goal 3 or 4: Natural Sciences OR**
  - Mathematical/Logical Reasoning ........................................ 3
- **Goal 6: Humanities and Fine Arts** ................................... 3
- **Total Semester Credits** .................................................. 16

**Total Program Credits** .................................................. 60
Social Media Marketing

Program Overview
Facebook, Twitter, YouTube and other social media platforms are opportunities for organizations to inform, communicate and connect with customers. Social media provides both a listening and outreach tool for promoting organizations, products, services and ideas. This program provides a foundation of social media and Internet marketing. Students will learn and analyze techniques, tactics and tools used to engage customers and deliver superior value. Jobs and careers in this fast changing field of marketing will be explored.

Career Opportunities
All organizations, including for-profit business or non-profit organizations, have the need for communicating with customers and stakeholders. This program is designed for those who want to expand their knowledge and skills in social media and Internet marketing strategies. Many employers require some education or experience in marketing even for “non-marketing” positions. Employment opportunities are excellent for marketers who can engage, delight and develop meaningful relationships with customers. Opportunities and positions include social media marketing specialist, marketing coordinator and web marketing analyst.

Program Outcomes
1. Develop an understanding of social media and e-marketing and the fundamental shifts on how organizations communicate with its customers.
2. Students will have skills and abilities to analyze Internet marketing and communications strategies to serve and deliver value that attract new customers and develop relationships with existing customers.
3. Create e-marketing and social media marketing plans that are integrated with an organization’s overall marketing strategy and goals.

Program Faculty
Craig Maus  craig.maus@saintpaul.edu
651.846.1531

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed
Course                Cr
☐ BUSN 1441 Consumer Behavior               3
☐ BUSN 1444 Advertising and Promotional Strategies               3
☐ BUSN 1490 E-Marketing                    3
☐ BUSN 1492 Social Media Marketing               3
☐ BUSN 2110 Principles of Marketing               3
☐ DGIM 1540 Blogging Applications               2
Total Program Credits               17

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
BUSN 1441 Consumer Behavior (fall only)               3
BUSN 1490 E-Marketing (fall only)                    3
BUSN 2110 Principles of Marketing               3
Total Semester Credits               9

Second Semester
BUSN 1444 Advertising and Promotional Strategies (spring only)               3
BUSN 1492 Social Media Marketing (spring only)                    3
DGIM 1540 Blogging Applications               2
Total Semester Credits               8
Total Program Credits               17

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 38+
Writing: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Degree option may have a greater requirement than this certificate.
Supply Chain Logistics  AAS DEGREE

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.

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, transportation management, logistics, and purchasing.
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 management of supply chain.
5. Graduates will have critical thinking skills.

Program Faculty
Susan Senger  susan.senger@saintpaul.edu  651.846.1519
Anna Ouattara  anna.ouattara@saintpaul.edu  651.846.1717

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Required Business Core  Cr

Professional Component
☐ ACCT 2410 Financial Accounting  .......... 4
☐ BTEC 1421 Business Information Applications 1  .... 3
☐ BUSN 1410 Introduction to Business  .......... 3
☐ BUSN 1449 Business Communications  .......... 3
☐ BUSN 2465 Business Ethics  ................... 3
Required Business Core  .......... 16

Course  Cr
☐ BSLM 1410 Transportation Management  .......... 3
☐ BSLM 1510 Distribution Management  .......... 3
☐ BSLM 2420 Supply Chain Management  .......... 4
☐ BSLM 2450 Procurement Principles and Applications  ........ 3
☐ BUSN 2110 Principles of Marketing  .......... 3
☐ BUSN 2472 Business Negotiation Skills  .......... 3
☐ INTL 1512 Export Shipping and Compliance  .......... 3
☐ INTL 2420 U. S. Customs and Importing  .......... 3
☐ Business Elective  ..................... 2
Subtotal  .......... 27

General Education/MnTC Requirements  Cr

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication  ..................... 7
ENGL 1711 Composition 1  = 4 cr
COMM 17XX  = 3 cr
☐ Goal 3: Natural Sciences OR
Goal 3: Natural Sciences OR
☐ Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science, and Behavioral Sciences  .......... 3
ECON 1720 Macroeconomics 3 or OR
ECON 1730 Microeconomics 3 cr
☐ Goal 6: Humanities and Fine Arts  .......... 3
Goals 1-10 of the Minnesota Transfer Curriculum
Select a minimum of 1 additional credit  .......... 1
General Education Requirements  .......... 17

Total Program Credits  .......... 60

See back of this guide for Course Sequence

Program Start Dates
Fall, Spring, Summer

Course Sequence
The course sequence listed on the back side of this guide is recommended for a full-time student; however, this sequence is not required. Contact Program Faculty with questions.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Supply Chain Logistics AAS
BA Individualized Studies
Metropolitan State University
BA Marketing & Innovative Management
Concordia University, St. Paul
BS Business Administration Saint Mary’s
University-Twin Cities Campus
BS Global Supply Chain Management
Minnesota State University Moorhead
BS Marketing Saint Mary’s
University-Twin Cities Campus
BS Supply Chain and Operation Management
Metropolitan State University

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

314A (7159)
Course Sequence

The following sequence is recommended for a fulltime student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
ACCT 2410 Financial Accounting 1 .................. 4
BTEC 1421 Business Info Applications 1 ............... 3
BUSN 1410 Introduction to Business .................. 3
BUSN 1449 Business Communications ................. 3
Goal 1: ENGL 1711 Composition 1 .................. 4
Total Semester Credits .............................. 17

Second Semester
BSLM 2420 Supply Chain Management
(spring only) ........................................ 4
BSLM 2450 Procurement Principles and Applications
(spring only) ........................................ 3
BUSN 2472 Business Negotiation Skills ............... 3
INTL 1512 Export Shipping and Compliance
(spring only) ........................................ 3
Goal 1: COMM 17XX .............................. 3
Total Semester Credits .............................. 16

Third Semester
BSLM 1410 Transportation Management
(fall only) ........................................... 3
BSLM 1510 Distribution Management
(fall only) ........................................... 3
BUSN 2110 Principles of Marketing ................. 3
BUSN 2465 Business Ethics .......................... 3
Goal 5: ECON 1720 Macroeconomics OR
ECON 1730 Microeconomics ........................ 3
Total Semester Credits .............................. 15

Fourth Semester
INTL 2420 U. S. Customs and Importing
(spring only) ........................................ 3
Business Elective ................................... 2
Goal 3 or 4: Natural Sciences OR
Mathematical/Logical Reasoning .................. 3
Goal 6: Humanities and Fine Arts .................... 3
Mn Transfer Curriculum ............................ 1
Total Semester Credits .............................. 12

Total Program Credits .............................. 60
Supply Chain Logistics  CERTIFICATE

Program Overview
In order to be admitted to the Supply Chain Logistics certificate program, the student must have previous related work experience or a business degree (minimum – AAS). Program Faculty approval is required for admission. This certificate is not designed for entry level to the logistics field, but as an add-on certificate to enhance and build on prior knowledge.

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

This certificate program is transferable to the Supply Chain Logistics 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 management of the supply chain.

Program Faculty
Susan Senger  susan.senger@saintpaul.edu  651.846.1519
Anna Ouattara  anna.ouattara@saintpaul.edu  651.846.1717

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, Saturday and online courses. Part time and full-time options are available.

Program Faculty approval required for admission
This certificate is not designed for entry level to the logistics field, but as an add-on certificate to enhance and build on prior knowledge.

Program Requirements
☐ Check off when completed
The student must have related work experience or a business degree (minimum – AAS) to be admitted to the Supply Chain Logistics Certificate.

Program Faculty approval required for admission.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>BSLM 1410 Transportation Management</td>
<td>3</td>
</tr>
<tr>
<td>BSLM 1510 Distribution Management</td>
<td>3</td>
</tr>
<tr>
<td>BSLM 2420 Supply Chain Management</td>
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<tr>
<td>BSLM 2450 Procurement Principles and Applications</td>
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<tr>
<td>BUSN 2110 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2472 Business Negotiation Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Program Credits ................. 19

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact Program Faculty with questions.

First Semester
BSLM 1410 Transportation Management  (fall only)  ........................... 3
BSLM 1510 Distribution Management  (fall only)  ........................... 3
BUSN 2472 Business Negotiation Skills  ........................... 3
Total Semester Credits  .................... 9

Second Semester
BSLM 2420 Supply Chain Management  (spring only)  ........................... 4
BSLM 2450 Procurement Principles and Applications  (spring only)  ............ 3
BUSN 2110 Principles of Marketing  ............... 3
Total Semester Credits  ..................... 10

Total Program Credits .................. 19

Program Start Dates
Fall, Spring

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Requires additional education and/or experience in the field in addition to assessment requirements.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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

Faculty approval required for admission.

Degree option may have a greater requirement than this certificate.
### Career & Technical Education Programs

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<th>Sheet Metal</th>
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</thead>
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<td>Automotive Service Technician AAS Degree (72 Credits)</td>
<td>Sheet Metal/HVAC Ducts &amp; Fittings AAS Degree (60 Credits)</td>
</tr>
<tr>
<td>Automotive Service Technician Diploma (56 Credits)</td>
<td>Sheet Metal/HVAC Ducts &amp; Fittings Diploma (40 Credits)</td>
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<table>
<thead>
<tr>
<th>Truck Technician</th>
<th>Welding Technology</th>
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<tbody>
<tr>
<td>Truck Technician Diploma (73 Credits)</td>
<td>Welding Technology Diploma (48 Credits)</td>
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<table>
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<tr>
<th>Cabinetmaking</th>
<th>Manufacturing Technology</th>
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<tbody>
<tr>
<td>Cabinetmaking Diploma (37 Credits)</td>
<td>CNC Toolmaking Diploma (63 Credits)</td>
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<thead>
<tr>
<th>Carpentry</th>
<th>Individualized Studies</th>
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</thead>
<tbody>
<tr>
<td>Carpentry Diploma (42 Credits)</td>
<td>Individualized Studies AAS (60 Credits)</td>
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<th>Electrical Technology</th>
<th>360° eTECH Programs</th>
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<tbody>
<tr>
<td>Electrical Technology Diploma (74 Credits)</td>
<td>Automation Technologies Certificate (30 Credits)</td>
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<th>Electromechanical Systems</th>
<th>Machine Technologist Certificate (30 Credits)</th>
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<tr>
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<td>Machine &amp; Automation Diploma (52 Credits)</td>
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<tr>
<td>Electromechanical Systems Certificate (29 Credits)</td>
<td>Production Technologies Certificate (16 Credits)</td>
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<table>
<thead>
<tr>
<th>Pipefitting</th>
<th>Welding Technology Certificate (30 Credits)</th>
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<tbody>
<tr>
<td>Pipefitting Diploma (40 Credits)</td>
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<tr>
<td>Pipefitting Apprenticeship Building Trades (40 Credits)</td>
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<tr>
<td>Pipefitting Apprenticeship Service Diploma (40 credits)</td>
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<tr>
<th>Plumbing</th>
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<tbody>
<tr>
<td>Plumbing Diploma (44 Credits)</td>
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</table>
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 a shop service sales person, new car dealership service manager, or shop owner.

Program Outcomes
1. Graduates will be prepared to pass all 8 ASE tests.
2. Graduates will have knowledge and skills in use of testing equipment, special tools, and specifications for servicing automobiles.
3. Graduates will have the knowledge and skills to diagnose problems in automotive systems.
4. Graduates will be prepared for employment as Automotive Service Technicians.
5. Graduates will have proficient communication skills for customer service.
6. Graduates will have business and management skills required of an automotive service technician.

Program Faculty
John Purcell
david.vorderbruggen@saintpaul.edu
Jake Yernberg
jake.yernberg@saintpaul.edu

Admission Requirement
Admission requires completion of the Automotive Service Technician Diploma, or concurrent enrollment in the second year Auto Technician program.

Tool Costs
Students will need to supply their own basic tools and tool box. The estimated cost for professional quality tools and tool box is approximately $2,000–$3,000.

Tool vendors will be on campus during the first week.

Program Requirements
☐ Check off when completed

Successful completion of each semester in this program is a pre-requisite for participation in the following semester.

Course Cr
☐ AUTO 1415 Introduction to Automotive Technology .......................... 4
☐ AUTO 1430 Brakes ......................................................................... 4
☐ AUTO 1441 Alignment & Suspension ........................................... 4
☐ AUTO 1510 Clutch/Drive Line Manual Transmission .................. 3
☐ AUTO 1523 Four Wheel Drive Differential ................................. 3
☐ AUTO 1530 Basic Electrical & Battery ......................................... 3
☐ AUTO 1540 Basic Engine Management ........................................ 3
☐ AUTO 1550 Heating & Air Conditioning ...................................... 4
☐ AUTO 2410 Starting & Charging Systems .................................. 3
☐ AUTO 2420 Electrical Accessories ............................................. 3
☐ AUTO 2430 Engine Theory & Repair ......................................... 4
☐ AUTO 2440 Engine Installation .................................................. 2
☐ AUTO 2450 Introduction to Auto Computers .............................. 2
☐ AUTO 2513 Fuel Systems ............................................................. 3
☐ AUTO 2520 Engine Drivability ................................................... 3
☐ AUTO 2530 Automatic Transmission Diag & Repair ................... 4
☐ AUTO 2550 Specialized Lab 1 ..................................................... 2
Subtotal .................................................................................. 56

Total Program Credits ................................................. 72

Program Start Dates
Fall, (Spring - if space available and with instructor permission)

Length of Program
This is a full-time, day and evening program. The program can be completed in four semesters. Students can enroll in the program only in the fall.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Automotive Service Technician AAS
BS Operations Management
Minnesota State University-Moorhead
BS Automotive Engineering Technology
Minnesota State University-Mankato

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

☐ Reading: Score of 60+ or grade of “C” or better in READ 0721
☐ Writing: Score of 60+ or grade of “C” or better in ENGL 0921
☐ Arithmetic: Score of 31+
☐ Spatial assessment required: Score 10+
☐ Shop/classroom visit recommended

Student must have a valid driver’s license

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

General Education/MnTC Requirements Cr
☐ Goal 1: Communication ......................................................... 7
☐ Goal 2: Natural Sciences OR
☐ Goal 3: Mathematical/Logical Reasoning
☐ Goal 4: Psychology
☐ Goal 5: History, Social Science, and Behavioral Sciences ........ 3
☐ Goal 6: Humanities and Fine Arts ................................. 3
☐ General Education Requirements ........................................ 16

This Program Requirements Guide is not a contract.
Automotive Service Technician  AAS DEGREE

Course Sequence
The following full-time sequence is recommended.

**First Semester**
- AUTO 1415 Introduction to Automotive Technology ................................ 4
- AUTO 1430 Brakes ............................ 4
- AUTO 1510 Clutch/Driveline Manual Transmission . . . 3
- AUTO 1530 Basic Electrical & Battery ....................... 3
- ENGL 1711 Composition 1. .............................. 4
- **Total Semester Credits** .............................. 18

**Second Semester**
- AUTO 1441 Alignment & Suspension .............. 4
- AUTO 1523 Four Wheel Drive Differential .......... 3
- AUTO 1540 Basic Engine Management ............ 3
- AUTO 1550 Heating & Air Conditioning ........... 4
- Goal 1: COMM 17XX .......................... 3
- **Total Semester Credits** .............................. 17

**Third Semester**
- 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
- Goal Area 5 .................................. 3
- Goal Area 3 or 4 .................................. 3
- **Total Semester Credits** .............................. 20

**Fourth Semester**
- AUTO 2513 Fuel Systems ....................... 3
- AUTO 2520 Engine Drivability .................... 3
- AUTO 2530 Auto Transmission Theory ............ 2
- AUTO 2542 Auto Tran Diagnosis & Repair ......... 4
- AUTO 2550 Specialized Lab 1 ................... 2
- Goal Area 6 .................................. 3
- **Total Semester Credits** .............................. 17

**Any Semester**
General Education requirement courses may be taken before, after or concurrently with the Automotive Service Technician courses.

- **General Education Requirements** .................. 16

**Total Program Credits** .................. 72
Automotive Service Technician DIPLOMA

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 be prepared to pass all 8 ASE tests.
2. Graduates will have knowledge and skills in use of testing equipment, special tools, and specifications for servicing automobiles.
3. Graduates will have the knowledge and skills to diagnose problems in automotive systems.
4. Graduates will be prepared for employment as Automotive Service Technicians.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Automotive Service Technician Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Faculty
John Purcell
john.purcell@saintpaul.edu
Jake Yernberg
jake.yernberg@saintpaul.edu
David Vorderbruggen
david.vorderbruggen@saintpaul.edu

Length of Program
This is a full-time, day and evening program. The program can be completed in four semesters. Students can enroll in the program only in the fall.

Tool costs
Students will need to supply their own basic tools and tool box.

The estimated cost for professional quality tools and tool box is approximately $2,000–$3,000.

Tool vendors will be on campus during the first week.

Program Requirements
☐ Check off when completed
Successful completion of each semester in this program is a pre-requisite for participation in the following semester.

Course
AUTO 1415 Introduction to Automotive Technology................. 4
AUTO 1430 Brakes ............................................. 4
AUTO 1441 Alignment & Suspension .............................. 4
AUTO 1510 Clutch/Driveline Manual Transmission ............... 3
AUTO 1523 Four Wheel Drive Differential ............................ 3
AUTO 1530 Basic Electrical & Battery ............................... 3
AUTO 1540 Basic Engine Management ............................. 3
AUTO 1550 Heating & Air Conditioning ............................. 4
AUTO 2410 Starting/Charging Systems .............................. 3
AUTO 2420 Electrical Accessories ................................ 3
AUTO 2430 Engine Theory & Repair ................................. 4
AUTO 2440 Engine Installation ...................................... 2
AUTO 2450 Introduction to Auto Computers .......................... 2
AUTO 2510 Specialized Lab 1 ...................................... 2

Total Program Credits .............................................. 56

Program Start Dates
Fall

Course Sequence
The following full-time sequence is recommended.

First Semester
AUTO 1415 Introduction to Automotive Technology ................. 4
AUTO 1430 Brakes ............................................. 4
AUTO 1441 Alignment & Suspension ................................ 4
AUTO 1510 Clutch/Driveline Manual Transmission ............... 3
AUTO 1523 Four Wheel Drive Differential ............................ 3
AUTO 1530 Basic Electrical & Battery ................................ 3
AUTO 1540 Basic Engine Management ................................ 3
AUTO 1550 Heating & Air Conditioning ............................. 4

Total Semester Credits .............................................. 14

Second Semester
AUTO 1415 Introduction to Automotive Technology ................. 4
AUTO 1430 Brakes ............................................. 4
AUTO 1441 Alignment & Suspension ................................ 4
AUTO 1510 Clutch/Driveline Manual Transmission ............... 3
AUTO 1523 Four Wheel Drive Differential ............................ 3
AUTO 1530 Basic Electrical & Battery ................................ 3
AUTO 1540 Basic Engine Management ................................ 3
AUTO 1550 Heating & Air Conditioning ............................. 4
AUTO 2410 Starting/Charging Systems .............................. 3
AUTO 2420 Electrical Accessories ................................ 3
AUTO 2430 Engine Theory & Repair ................................. 4
AUTO 2440 Engine Installation ...................................... 2
AUTO 2450 Introduction to Auto Computers .......................... 2

Total Semester Credits .............................................. 14

Third Semester
AUTO 1415 Introduction to Automotive Technology ................. 4
AUTO 1430 Brakes ............................................. 4
AUTO 1441 Alignment & Suspension ................................ 4
AUTO 1510 Clutch/Driveline Manual Transmission ............... 3
AUTO 1523 Four Wheel Drive Differential ............................ 3
AUTO 1530 Basic Electrical & Battery ................................ 3
AUTO 1540 Basic Engine Management ................................ 3
AUTO 1550 Heating & Air Conditioning ............................. 4
AUTO 2410 Starting/Charging Systems .............................. 3
AUTO 2420 Electrical Accessories ................................ 3
AUTO 2430 Engine Theory & Repair ................................. 4
AUTO 2440 Engine Installation ...................................... 2
AUTO 2450 Introduction to Auto Computers .......................... 2
AUTO 2510 Specialized Lab 1 ...................................... 2

Total Semester Credits .............................................. 14

Total Program Credits .............................................. 56

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+
Spatial assessment required: Score 10+
Shop/classroom visit recommended
Student must have a valid driver’s license
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Program Requirements Guide

Truck Technician DIPLOMA

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.

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 entry level truck technicians and truck preventative maintenance technicians.
4. Graduates will have mastered the general education program requirements for work and life roles.

Additional Requirements/Recommendations
• 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.
• Drug test, background check, driving record, and a commercial drivers license may also be required by many employers.

Program Requirements

Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tr>
<td>TRKM 1400 Introduction and Safety</td>
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<tr>
<td>TRKM 1445 Truck Welding 1</td>
<td>2</td>
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<td>TRKM 1521 Electrical 1</td>
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<tr>
<td>TRKM 1522 Electrical 2</td>
<td>5</td>
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<tr>
<td>TRKM 1551 Clutch and Transmission</td>
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<td>TRKM 1552 Drivshafts and Differentials</td>
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<tr>
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<td>6</td>
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<td>TRKM 2401 Steering and Suspension Systems</td>
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<tr>
<td>TRKM 2425 Truck Cab Climate Control Systems</td>
<td>3</td>
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<tr>
<td>TRKM 2440 Gasoline Engines</td>
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<tr>
<td>TRKM 2511 Diesel Engines 1</td>
<td>6</td>
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<td>TRKM 2512 Diesel Engines 2</td>
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General Education/MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

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<thead>
<tr>
<th>Course</th>
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<tbody>
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<tr>
<td>General Education Requirements</td>
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</table>

Total Program Credits: 67

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Truck Technician Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Start Dates
Fall

Course Sequence
This diploma program generally includes four semesters of full-time study. The course sequence will depend upon when a student starts the Truck Technician program. Each of the four required semester blocks is offered once every other year. Students beginning Fall Semester will follow the following sequence outlined.

First Semester
<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>TRKM 1400 Introduction and Safety</td>
<td>1</td>
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<tr>
<td>TRKM 1445 Truck Welding 1</td>
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<td>TRKM 1521 Electrical 1</td>
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<tr>
<td>TRKM 1522 Electrical 2</td>
<td>5</td>
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<tr>
<td>TRKM 1552 Drivshafts and Differentials</td>
<td>4</td>
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<td>TRKM 1553 Automatic and Automated Transmissions</td>
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<td>TRKM 1560 Truck Brake Systems</td>
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<td>Total Semester Credits</td>
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Second Semester
<table>
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<td>TRKM 1551 Clutch and Transmission</td>
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<td>TRKM 1553 Automatic and Automated Transmissions</td>
<td>4</td>
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<tr>
<td>TRKM 1560 Truck Brake Systems</td>
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<td>Total Semester Credits</td>
<td>17</td>
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Third Semester
<table>
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<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>TRKM 2401 Steering and Suspension Systems</td>
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<td>TRKM 2425 Truck Cab Climate Control Systems</td>
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<td>TRKM 2440 Gasoline Engines</td>
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Fourth Semester
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<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>TRKM 2511 Diesel Engines 1</td>
<td>6</td>
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<tr>
<td>TRKM 2512 Diesel Engines 2</td>
<td>6</td>
</tr>
<tr>
<td>TRKM 2540 Preventive Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Total Semester Credits</td>
<td>15</td>
</tr>
</tbody>
</table>

General Education Requirement (any) | 3 |

May be taken any semester, but Summer Term is recommended.

Total Program Credits | 67

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

- **Reading**: Score of 60+ or grade of “C” or better in READ 0721
- **Writing**: Score of 38+
- **Arithmetic**: Score of 31+
- **Spatial assessment required**: Score 10+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

saintpaul.edu

Saint Paul College—A Community & Technical College • 2018–2019 Catalog
Cabinetmaking

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.

Career Opportunities
New construction in housing and industry, and the renovation and modernization of existing structures are expected to increase the demand for cabinetmakers.

Cabinetmaking graduates find positions in kitchen cabinet shops, lumber companies, sash and door factories, store fixture manufacturers, display shops, wood specialty shops, and furniture repair shops. Some graduates operate their own business.

Program Outcomes
1. Graduates will have acquired supervised hands-on experience building framed and frameless cabinetry.
2. Graduates will have knowledge, skill, and hands-on experience in the use of CAD/CAM software and CNC equipment.
3. Graduates will have knowledge, skill, and hands-on experience with wood stains, finishes and finishing equipment.
4. Graduates will have knowledge, skill, and hands-on experience in plastic laminate technology and fabrication.
5. Graduates will have acquired supervised hands-on experience in raised panel door layout, machinery set up, and production.
6. Graduates will have the knowledge, skills, and hands-on experience on the safe operation of woodworking equipment.

Program Faculty
Thomas Hillstead  thomas.hillstead@saintpaul.edu

Part-time/Full-time options
Part-time and full-time options available.

Textbook, tool, and supply costs
Additional program costs total approximately $1,250 for the following:
- Tools: $500.00
- Books & Supplies: $350.00
- Projects (costs vary) about: $400.00

Program Requirements
☐ Check off when completed
MATH 1411 – Applied Math is required for program graduation. It should be taken by the end of the first semester.

Course                   Cr
☐ CABT 1450 Print Reading .................. 2
☐ CABT 1455 Traditional Machining Methods .... 5
☐ CABT 1460 Wood Technology .................. 2
☐ CABT 1465 Furniture & Residential Cabinetry .... 5
☐ CABT 1470 CAD/CNC .......................... 2
☐ CABT 1475 Industrial Machining Methods ......... 4
☐ CABT 2450 Surface Applications .................. 4
☐ CABT 2455 Casework & Millwork .................. 5
☐ CABT 2515 CNC Cabinet Design .................. 3
☐ Choose one of the following .................. 2
☐ CABT 2690 Capstone Project/Open Lab
☐ CABT 2695 Internship
MATH 1411 Applied Math .................. 3

Total Program Credits .................. 37

Additional Requirements/Recommendations
- 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.

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester.

Fall Semester
CABT 1450 Print Reading .................. 2
CABT 1455 Traditional Machining Methods .... 5
CABT 1460 Wood Technology .................. 2
CABT 1465 Furniture & Residential Cabinetry .... 5
CABT 1470 CAD/CNC .......................... 2
CABT 1475 Industrial Machining Methods ......... 4
CABT 2450 Surface Applications .................. 4
CABT 2455 Casework & Millwork .................. 5
CABT 2515 CNC Cabinet Design .................. 3
Choose one of the following .................. 2
CABT 2690 Capstone Project/Open Lab
CABT 2695 Internship

Total Semester Credits .................. 19

Spring Semester
CABT 1475 Industrial Machining Methods ......... 4
CABT 2450 Surface Applications .................. 4
CABT 2455 Casework & Millwork .................. 5
CABT 2515 CNC Cabinet Design .................. 3
Choose one of the following .................. 2
CABT 2690 Capstone Project/Open Lab
CABT 2695 Internship

Total Semester Credits .................. 18

Total Program Credits .................. 37

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Cabinetmaking Diploma
BS  Operations Management
Minnesota State University-Moorhead

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Carpentry Diploma

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 journeyperson by working on the job and attending classes related to their work. Advancement can continue to lead carpenter, carpenter foreman, and job superintendent. Carpenters are employed by a wide variety of construction contractors, or they may choose to become self-employed in their own business.

Program Outcomes
1. Graduates will have the knowledge and skills to safely use hand and portable power tools used by carpenters in the construction industry.
2. Graduates will be able to work with wood, plastics, concrete, metals, gypsum, and various fiber composite products used by carpenters in the construction industry.
3. Graduates will have practiced procedures used by carpenters in framing layout, stair construction, wood and steel framing, and installation of doors, windows, and cabinets.
4. Graduates will be familiar with forming systems and types of scaffold used in concrete construction.
5. Graduates will be familiar with and have practiced job site safety requirements.
6. Graduates will be able to operate instruments and demonstrate procedures used in building layout.
7. Graduates will display effective work habits deemed necessary by employers.
8. Graduates will be prepared for entry level employment as carpenters and admission to the Carpenters Apprentice Training Program.

Program Faculty
Perry Franzen 
651.846.1391

Perry.franzen@saintpaul.edu

Full-time enrollment is required
This is a full-time day program. Students should plan for a full day of classes.

Special supplies and tool costs
Students should expect to spend approximately $1,100.00, beyond the cost of tuition, fees, and books, for special supplies and tools. A list is available from the advisor.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Start Dates
Summer

Course Sequence
The following sequence is required.

First Term
- CARP 1410 Project Estimating ........................................... 3
- CARP 1420 Construction Blueprint Reading .................... 3
- CARP 1430 Intro to Carpentry & Hand Tools .................. 3
Total Semester Credits ..................................................... 8

Second Semester
- CARP 1510 Intermediate Carpentry ............................... 5
- CARP 1521 Building Technology .................................... 5
- CARP 1522 Power Tool and Shop Procedures ............... 5
- MATH 1411 Applied Mathematics ................................. 3
Total Semester Credits ..................................................... 18

Thrid Semester
- CARP 2410 Advanced Carpentry .................................... 6
- CARP 2421 Fieldwork and Carpentry Procedures ........... 5
- CARP 2422 Carpentry Concrete Technology and Installation .................................................... 5
Total Semester Credits ..................................................... 16

Total Program Credits ................................................... 42

Additional Prerequisite
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>CARP 1410 Project Estimating</td>
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</tr>
<tr>
<td>CARP 1420 Construction Blueprint Reading</td>
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<tr>
<td>CARP 1430 Intro to Carpentry &amp; Hand Tools</td>
<td>3</td>
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<tr>
<td>CARP 1510 Intermediate Carpentry</td>
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<tr>
<td>CARP 1521 Building Technology</td>
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<td>CARP 1522 Power Tool and Shop Procedures</td>
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<tr>
<td>MATH 1411 Applied Mathematics</td>
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</tbody>
</table>

Total Program Credits ................................................... 42
Electrical Technology DIPLOMA

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.

Students should have an interest and aptitude in applied 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.
5. Graduates will meet the MN Department of Labor and Industry’s electrical program requirement of specific curriculum and 95% course attendance policy.

Apprenticeship opportunity
Completion of the Electrical Technology Diploma program meets the Minnesota Department of Labor and Industry requirements. 95% attendance in each course and completion of the diploma may qualify for one year of apprenticeship credit.

Program Faculty
Jennie Selton  julie.selton@saintpaul.edu
Keith Setley  keith.setley@saintpaul.edu
Dean Wiikle  dean.wiikle@saintpaul.edu
George Schaus  george.schaus@saintpaul.edu

Program Requirements
☐ Check off when completed
Certain courses must be taken concurrently and certain classes are prerequisites to other classes.

Course  Cr
☐ ELTN 1410 National Electrical Code 1 and Trade Calculations 4
☐ ELTN 1422 Direct Current Circuit Analysis 5
☐ ELTN 1432 Alternating Current Circuit Analysis 5
☐ ELTN 1442 Single-Phase Motors and Generators 5
☐ ELTN 1512 Three-Phase Motors and Generators 5
☐ ELTN 1522 Introduction to Electronics and Test Equipment 5
☐ ELTN 1532 Intermediate Electronics and PLC’s 5
☐ 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 2522 Commercial Wiring Methods 5
☐ ELTN 2532 Industrial Wiring Methods and Service Entrance 5
☐ ELTN 2540 National Electrical Code 2 4
☐ ELTN 2550 Renewable Energy 2

Total Program Credits 74

Additional Program Requirements/Costs
• Students must attend orientation.
• Textbooks are required the first day of class. Go to www.saintpaulcollegebookstore.com for textbook information.
• Multimeter and hand tools, approximately $500 new.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below. For more information please go to saintpaul.edu/Transfer.

Electrical Technology Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Start Dates
Fall, Spring

Course Sequence
The following full-time sequence is recommended.

First Semester
ELTN 1410 National Electrical Code 1 and Trade Calculations 4
ELTN 1422 Direct Current Circuit Analysis 5
ELTN 1432 Alternating Current Circuit Analysis 5
ELTN 1442 Single-Phase Motors and Generators 5
Total Semester Credits 19

Second Semester
ELTN 1512 Three-Phase Motors and Generators 5
ELTN 1522 Introduction to Electronics and Test Equipment 5
ELTN 1532 Intermediate Electronics and PLC’s 5
ELTN 1540 Low Voltage Systems and Job Site Safety 4
Total Semester Credits 16

Third Semester
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
Total Semester Credits 20

Fourth Semester
ELTN 2510 Wiring Methods and Systems 4
ELTN 2522 Commercial Wiring Methods 5
ELTN 2532 Industrial Wiring Methods and Service Entrance 5
ELTN 2540 National Electrical Code 2 4
ELTN 2550 Renewable Energy 2
Total Semester Credits 20
Total Program Credits 74

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 60+ or a grade of “C” or better in READ 0721
Writing: Score of 60+ or a grade of “C” or better in ENGL 0921
Arithmetic: Score of 31+
Assessment Results and Prerequisites: Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Electromechanical Systems **DIPLOMA**

**Program Overview**
Electromechanical systems, also referred to as mechatronics, is a new and rapidly growing field that integrates electronics, mechanics, pneumatics, hydraulics, and computer control systems to create new and improved automated manufacturing production systems. This program is designed for people who are interested in plant maintenance (troubleshooting & repair), process set up, installation, and commissioning. Electromechanical Systems move beyond simply cross-training employees, as the discipline recognizes that individuals need to be trained in five areas: mechanical, electrical, fluid power, process control, and industrial programming.

Students/electricians that previously acquired a diploma/AAS degree in the study of electricity may transfer in credits toward the Electromechanical Systems diploma. Students should have an interest and aptitude in applied algebra, trigonometry, drawing and science. Good eyesight and color vision are important.

**Career Opportunities**
The Electromechanical Systems program prepares students for careers requiring specialized skills in electricity, electronics, instrumentation, programmable logic controllers, microprocessors, automation and robotics. Students will become multi-skilled technicians capable of solving the many complex problems of manufacturing automation. Students will be prepared for a wide variety of careers including: Instrument Technician, Electrical Technician, Electromechanical Technician, Robotics Technician, Electronics Mechanic, Machine Repair & Maintenance, Motor Installer, Instrumentation Calibration Technician, Industrial Programmer, PLC Programmer, and Field Service.

These jobs are found in a wide range of fields including: oil refineries, water treatment, wastewater treatment, manufacturing plants, chemical, medical, electronics, agriculture, biotechnology and automotive industries.

**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.
5. Graduates will meet the MN Department of Labor and Industry's electrical program requirement of specific curriculum and 95% course attendance policy.

**Program Faculty**
Travis Schachtner  travis.schachtner@saintpaul.edu  651.403.4163

**Program Delivery**
While addressing the general education needs of the program, students will be working within the Electrical Technology program in second semester. Third and fourth semester consist of online course delivery with hands-on labs to reinforce the lessons learned as well as one-on-one with instructors.

**Additional Program Requirements/Costs**
- Student must attend orientation.
- Textbooks are required the first day of class. Go to saintpaulcollegebookstore.com for textbook information.
- Students are responsible for having their own Personal Protective Equipment (PPE) to participate in the labs.

**Program Requirements**
- Check off when completed
- Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

**Course Sequence**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall Semester</td>
<td>CMAE 1514 Safety Awareness</td>
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<tr>
<td></td>
<td>CMAE 1518 Manufacturing Process and Production</td>
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<td>CMAE 1522 Quality Practices</td>
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<tr>
<td></td>
<td>CMAE 1526 Manufacturing Awareness</td>
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<tr>
<td></td>
<td>EMEC 1510 AC/DC Fundamentals</td>
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<tr>
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<td>EMEC 1520 Electrical Motors</td>
<td>3</td>
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<tr>
<td></td>
<td>EMEC 1530 Motor Controls</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>EMEC 1540 Motor Drives</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>EMEC 2610 Fluid System Fund .- Pneumatics</td>
<td>4</td>
</tr>
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<td></td>
<td>EMEC 2615 Fluid System Fund .- Hydraulics</td>
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<td></td>
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<tr>
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<td>EMEC 2760 Programming for Robotic Manufacturing</td>
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<td>EMEC 2770 Advanced PLC Programming</td>
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<td>Refer to the Minnesota Transfer Curriculum Course List for each Goal Area</td>
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<td>ENGL 1730 Introduction to Technical Writing</td>
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<td>Goal 4: Mathematical/Logical Reasoning</td>
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</table>

**Program Start Dates**
Fall, Spring

**Course Sequence**
This course sequence is recommended for a full-time student; however, this sequence is not required. Students should consult with the Program Advisor each semester.

Not all courses are offered each semester; a selection of courses is offered summer term.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>CMAE 1514 Safety Awareness</td>
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<tr>
<td></td>
<td>CMAE 1518 Manufacturing Process and Production</td>
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<td>CMAE 1522 Quality Practices</td>
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<td>CMAE 1526 Maintenance Awareness</td>
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<tr>
<td></td>
<td>ENGL 1730 Introduction to Technical Writing</td>
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<td></td>
<td>Goal 4: Mathematical/Logical Reasoning</td>
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<td>Spring Semester</td>
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<td>EMEC 1520 Electrical Motors</td>
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</tr>
<tr>
<td></td>
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<td>Fall Semester</td>
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<td></td>
<td>EMEC 2615 Fluid System Fund .- Hydraulics</td>
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<td>Total Semester Credits</td>
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</tr>
</tbody>
</table>

**Total Program Credits**

**Minimum Program Entry Requirements**
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 60+ or grade of “C” or better in READ 0721

**Writing:** Score of 60+ or grade of “C” or better in ENGL 0921

**Arithmetic:** Score of 52+

**Assessment Results and Prerequisites:**
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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Program Requirements Guide

Electromechanical Systems CERTIFICATE

Program Overview

Note: Students must be a journeyman electrician, have a Construction Electricity (CNEL) or Electrical Technology (ELTN) Diploma/AAS, or have Instructor approval.

Electromechanical systems, also referred to as mechatronics, is a new and rapidly growing field that integrates electronics, mechanics, pneumatics, hydraulics, and computer control systems to create new and improved automated manufacturing production systems. This program is designed for people who are interested in plant maintenance (troubleshooting & repair), process set up, installation, and commissioning.

Electromechanical Systems move beyond simply cross-training employees, as the discipline recognizes that individuals need to be trained in five areas: mechanical, electrical, fluid power, process control, and industrial programming.

The Electromechanical Systems Certificate program requires high school graduation or equivalent. Students/electricians that previously acquired a diploma/AAS degree in the study of electricity may transfer in credits toward the Electromechanical certificate. Students should have an interest and aptitude in applied algebra, trigonometry, drawing and science. Good eyesight and color vision are Important.

Career Opportunities

The Electromechanical Systems program prepares students for careers requiring specialized skills in electricity, electronics, Instrumentation, programmable logic controllers, microprocessors, automation and robotics. Students will become multi-skilled technicians capable of solving the many complex problems of manufacturing automation. Students will be prepared for a wide variety of careers including: Instrument Technician. Electrical Technician, Electromechanical Technician, Robotics Technician, Electronics Mechanic, Machine Repair & Maintenance, Motor Installer, Instrumentation Calibration Technician, Industrial Programmer, PLC Programmer, and Field Service.

These jobs are found in a wide range of fields including: electrical utilities, oil refineries, water treatment, wastewater treatment, manufacturing plants, chemical, medical, electronics, agriculture, biotechnology and automotive industries.

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 be able to work on various styles of drives and pumps.
3. Graduates will be able to program using specialized industrial languages.
4. Graduates will have an understanding of machine logic and how electric, pneumatic, and hydraulic circuits interact with it.
5. Graduates will be able to work with various process control systems.

Program Delivery

Class work for this program consist of online course delivery with hands-on labs to reinforce that lessons learned as well as one-on-one with instructors.

Program Requirements

☐ Check off when completed

Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMEC 2610 Fluid System Fund. - Pneumatics</td>
<td>3</td>
</tr>
<tr>
<td>EMEC 2615 Fluid System Fund. - Hydraulics</td>
<td>3</td>
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<tr>
<td>EMEC 2620 Mechanical Fundamentals 1</td>
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<tr>
<td>EMEC 2625 Mechanical Fundamentals 2</td>
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</tr>
<tr>
<td>EMEC 2730 Advanced PLC Programming</td>
<td>4</td>
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<td>EMEC 2740 Electromechanical Troubleshooting &amp; Maintenance</td>
<td>3</td>
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<tr>
<td>EMEC 2751 Automated Process Control</td>
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<tr>
<td>EMEC 2760 Programming for Robotic Manufacturing</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Program Credits 29

Additional Program Materials Costs

- Student must attend orientation.
- Textbooks are required the first day of class. Go to www.saintpaulcollegebookstore.com for textbook information.
- Students are responsible for having their own Personal Protective Equipment (PPE) to participate in the labs.

Program Faculty

Travis Schachtner  travis.schachtner@saintpaul.edu  651.403.4163

Program Start Dates

Fall, Spring

Course Sequence

The following part-time sequence is recommended; however, this sequence is not required.

Not all courses are offered each semester; a selection of courses is offered summer term.

Students should consult with the Program Advisor each semester.

First Semester

EMEC 2610 Fluid System Fund. - Pneumatics 3
EMEC 2615 Fluid System Fund. - Hydraulics 3
EMEC 2620 Mechanical Fundamentals 1 4
EMEC 2625 Mechanical Fundamentals 2 4
EMEC 2730 Advanced PLC Programming 4
Total Semester Credits 14

Second Semester

EMEC 2740 Electromechanical Troubleshooting & Maintenance 4
EMEC 2751 Automated Process Control 4
EMEC 2760 Programming for Robotic Manufacturing 4
Total Semester Credits 15

Total Program Credits 29

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

- Reading: Score of 60+ or grade of “C” or better in READ 0721
- Writing: Score of 60+ or grade of “C” or better in ENGL 0921
- Arithmetic: Score of 52+

Assessment Results and Prerequisites:

Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Pipefitting DIPLOMA

Program Overview
Pipefitters install, maintain, and repair high and low pressure steam systems, high and low pressure hot water systems, snow melting systems, refrigeration systems, heating, gas and oil piping, pneumatic, electronic controls, air conditioning and also provide instrumentation and valve repair. These skills are used working in residential, commercial, and industrial installations. These systems are installed in all types of weather conditions.

Applicants must be high school graduates or the equivalent and should enjoy working in a demanding trade that requires both mental alertness and physical stamina. Pipefitters do heavy lifting and are required to work both indoors and outside, often times in confined spaces.

Career Opportunities
Pipefitters, Steamfitters, and HVACR Technicians work in all aspects of the heating, air conditioning, refrigeration, and temperature control fields. They are also employed at oil refineries, chemical plants, food processing facilities, manufacturing plants, retail and wholesale food stores, and ice rinks.

Maintenance pipefitters work in a variety of environments such as universities, schools, government agencies and utility companies.

Program Outcomes
1. Graduates will have the science and math skills needed in the piping systems.
2. Graduates will have the basic knowledge and skills necessary to install piping systems in commercial and industrial buildings.
3. Graduates will have basic knowledge to properly install and operate low and high pressure steam systems.

Program Faculty
Wyatt Carlson wyatt.carlson@saintpaul.edu

Restricted Enrollment
The Pipefitting Diploma is a restricted enrollment joint program offered through the St. Paul Pipefitters Local 455 and Saint Paul College. Admission to the Pipefitters Apprenticeship program is required for enrollment in this program. Contact Wyatt Carlson at wyatt.carlson@saintpaul.edu for application information.

Student supplies and tools costs
Text rental $100.00
PPE-Tools estimated at $150.00

All classes must be completed with a grade of “C” or better.

Program Requirements
☐ Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>PIPE 1410 Pipe Science/Math</td>
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<td>PIPE 1420 Pipe Blueprint Reading</td>
<td>3</td>
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<td>PIPE 1430 Pipe Welding 1</td>
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<tr>
<td>PIPE 1441 Basic Heating 1</td>
<td>3</td>
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<tr>
<td>PIPE 1442 Basic Heating 2</td>
<td>3</td>
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<tr>
<td>PIPE 1451 Pipe Shop 1</td>
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<tr>
<td>PIPE 1452 Pipe Shop 2</td>
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</tr>
<tr>
<td>PIPE 1522 Basic Air Conditioning and Refrigeration</td>
<td>2</td>
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<tr>
<td>PIPE 1530 Pipe Welding 2</td>
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<tr>
<td>PIPE 1540 Electric Controls</td>
<td>3</td>
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<tr>
<td>PIPE 1550 Basic Gas</td>
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</table>

Total Program Credits .......................... 40

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Pipefitting Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Start Dates
Fall

Course Sequence
The following sequence is required. This program begins fall semester.

First Semester
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 1522 Basic Air Conditioning and Refrigeration ... 2

Second Semester
PIPE 1451 Pipe Shop 1 ................................ 4
PIPE 1522 Basic Air Conditioning and Refrigeration ... 2
PIPE 1530 Pipe Welding 2 ............................ 5
PIPE 1540 Electric Controls .......................... 3
PIPE 1550 Basic Gas .................................. 3

Total Semester Credits ............................ 20

Total Program Credits ............................ 40

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading Comprehension: Score of 85+
Arithmetic: Score of 72 or better
Spatial: 70% or better

Students must maintain a GPA of 2.5 to continue in the program.

Students are accepted through St. Paul Pipefitters Local 455 JAC; 651.846.1699 or www.local455jatc.com.

Information is subject to change.
This Program Requirements Guide is not a contract.
Pipefitting Apprenticeship Building Trades DIPLOMA

Program Overview
Pipefitters install, maintain, and repair high and low pressure steam systems, high and low pressure hot water systems, snow melting systems, refrigeration systems, heating, gas and oil piping, pneumatic, electronic controls, air conditioning and also provide instrumentation and valve repair. These skills are used working in residential, commercial, and industrial installations. These systems are installed in all types of weather conditions. Applicants must be high school graduates or the equivalent and should enjoy working in a demanding trade that requires both mental alertness and physical stamina. Pipefitters do heavy lifting and are required to work both indoors and outside, often times in confined spaces.

Career Opportunities
Pipefitters, Steamfitters, and HVACR Technicians work in all aspects of the heating, air conditioning, refrigeration, and temperature control fields. They are also employed at oil refineries, chemical plants, food processing facilities, manufacturing plants, retail and wholesale food stores, and ice rinks. We also have maintenance pipefitters working at the University of Minnesota, Saint Paul School District, Metropolitan Council, Imation, Saint Paul Government Center, and Energy Park. We have pipefitters installing and maintaining refrigeration trucks, trailers, and buses at Thermo King Sales and Service.

Program Outcomes
1. Graduates will have the science and math skills needed in the piping systems.
2. Graduates will have the basic knowledge and skills necessary to install piping systems in commercial and industrial buildings.
3. Graduates will have basic knowledge to properly install and operate low- and high-pressure steam systems.

Program Faculty
Bill Lombard, Training Coordinator
bill.lombard@local455jatc.com

Restricted Enrollment
The Pipefitting Apprenticeship Building Trades Diploma is a restricted enrollment joint program offered through the St. Paul Pipefitters Local 455 and Saint Paul College. Admission to the Pipefitters Apprenticeship program is required for enrollment in this program. Courses are offered only as part-time evening and cannot be combined with any other apprenticeship program. Call 651.455.5282 for application information.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading Comprehension: Score of 72 or better
Mathematical Skills: Score of 72 or better
Spatial: 70% or better

Students must maintain a GPA of 2.5 to continue in the program.
Students are accepted through St. Paul Pipefitters Local 455 JAC; 651.846.1699 or www.local455jatc.com.

Program Requirements
☐ Check off when completed

Course Cr
☐ PIPE 2606 Pipelining 2 ......................... 2
☐ PIPE 2615 Pipe Layout & Installation 1 ........ 2
☐ PIPE 2616 Pipe Layout & Installation 2 ....... 2
☐ PIPE 2625 Steam, Hot Water & Gas Controls . 2
☐ PIPE 2631 Industrial Pneumatics .............. 2
☐ PIPE 2641 Foreman Leadership ................. 1
☐ PIPE 2642 Piping Design ........................ 1
☐ PIPE 2651 Refrigeration Code .................. 1
☐ PIPE 2652 Oil Code ................................ 1
☐ PIPE 2653 Gas Code ................................ 2
☐ PIPE 2654 Hot Water Code ..................... 2
☐ PIPE 2655 Ammonia Code ..................... 2
☐ PIPE 2656 High Pressure Steam Code ........ 2
☐ PIPE 2660 Industrial Rigging .................... 2
☐ RWLD 2621 Apprentice Pipe Weld 1 .......... 2
☐ RWLD 2622 Apprentice Pipe Weld 2 .......... 2
☐ RWLD 2623 Apprentice Pipe Weld 3 .......... 2
☐ RWLD 2624 Apprentice Pipe Weld 4 .......... 2
☐ RWLD 2660 Apprentice Pipe Weld 1 Advanced 2
☐ RWLD 2661 Apprentice Pipe Weld 2 Advanced 2
☐ RWLD 2662 Apprentice Pipe Weld 3 Advanced 2
☐ RWLD 2663 Apprentice Pipe Weld 4 Advanced 2

Total Program Credits ................................ 40

Special Features
Students are employed by contractors who are signatory with UA Local Union 455 St. Paul Pipefitters.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below. For more information please go to saintpaul.edu/Transfer.

Pipefitting Apprenticeship Service Diploma
BS Operations Management
Minnesota State University-Moorhead

Course Sequence
The following sequence is subject to Training Coordinator/Committee approval. This program begins fall semester.

1st year - Fall
RWLD 2621 Apprentice Pipe Weld 1 .................. 2
PIPE 2658 OSHA30/Pro10/UA Heritage ............... 2

1st year - Spring
RWLD 2660 Apprentice Pipe Weld 1 Advanced ...... 2
PIPE 2615 Pipe Layout & Installation 1 ............ 2

2nd year - Fall
RWLD 2622 Apprentice Pipe Weld 2 .................. 2
PIPE 2616 Pipe Layout & Installation 2 ............ 2

For information subject to change. This Program Requirements Guide is not a contract.
Pipefitting Apprenticeship Service DIPLOMA

Program Overview
HVAC Technicians install, maintain, and repair high and low pressure steam systems, high and low pressure hot water systems, snow melting systems, refrigeration systems, heating, gas and oil piping, pneumatic, electronic controls, air conditioning and also provide instrumentation and valve repair. These skills are used working in residential, commercial, and industrial installations. These systems are installed in all types of weather conditions.

Applicants must be high school graduates or the equivalent and have completed an accredited two-year HVAC program or equivalent. HVAC Technicians must have a clean driving record and be able to pass job site specific drug testing. HVAC Technicians spend a lot of time outside in extreme weather and are often under stress to get a piece of mechanical equipment back on line. There may be times when an HVAC Technician is required to perform heavy lifting.

Career Opportunities
HVAC Technicians work in all aspects of the heating, air conditioning, refrigeration, and temperature control fields. We are employed at oil refineries, chemical plants, food processing facilities, manufacturing plants, retail and wholesale food stores, and ice rinks.

The University of Minnesota, Saint Paul School District, Metropolitan Council, Imation, Saint Paul Government Center, and Energy Park also employ maintenance HVAC Technicians to keep their systems on line.

We have pipefitters installing and maintaining refrigeration trucks, trailers, and buses at Thermo King Sales and Service.

Program Outcomes
1. Graduates will have the science and math skills needed in the piping systems.
2. Graduates will have the basic knowledge and skills necessary to install piping systems in commercial and industrial buildings.
3. Graduates will have basic knowledge to properly install and operate low- and high-pressure steam systems.

Program Faculty
Bill Lombard, Training Coordinator
bill.lombard@local455jatc.com

Restricted Enrollment
The Pipefitting Apprenticeship Service Diploma is a restricted enrollment joint program offered through the St. Paul Pipefitters Local 455 and Saint Paul College. Admission to the Pipefitters Apprenticeship program is required for enrollment in this program. Call 651.455.5282 for application information.

Program Requirements

- Check off when completed

- Course
- Cr

- PIPE 2614 Boiler Systems .......................... 2
- PIPE 2615 Pipe Layout & Installation 1 ........ 2
- PIPE 2623 Apprenticeship Refrigeration/AC .... 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/Diagrams ........... 2
- PIPE 2638 Computer Controls .................... 2
- PIPE 2642 Piping Design ........................... 2
- PIPE 2643 Start/Test/Balance of Systems ...... 2
- PIPE 2644 Power Burners & Controls ......... 2
- PIPE 2645 DDC ..................................... 2
- PIPE 2651 Refrigeration Code ........ ........ 1
- PIPE 2652 Oil Code ................................. 1
- PIPE 2653 Gas Code ................................ 2
- PIPE 2654 Hot Water Code ..................... 2
- PIPE 2655 Ammonia Code ....................... 2
- PIPE 2656 High Pressure Steam Code .......... 2
- PIPE 2657 Advanced Boiler Systems .......... 2
- PIPE 2658 OSHA30/Pro10/UA Heritage ...... 2
- PIPE 2659 Commercial Building Systems ...... 2

Total Program Credits ................................ 40

Special Features
Students are employed by contractors who are signatory with UA Local Union 455 St. Paul Pipefitters.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Pipefitting Apprenticeship Service Diploma
BS Operations Management
Minnesota State University-Moorhead

Course Sequence
The following sequence is subject to Training Coordinator/Committee approval. This program begins fall semester.

1st year-Fall
PIPE 2658 OSHA 30/Pro10/UA Heritage/Standard for Excellence ........................................ 2
PIPE 2615 Pipe Layout & Inst .......................... 2

1st year-Spring
PIPE 2627 Basic Electricity .......................... 2
PIPE 2623 Apprenticeship Refrigeration/AC .... 2

2nd year-Fall
PIPE 2628 Commercial Pneumatics ............... 2
PIPE 2636 Electrical Controls/Diagrams .......... 2

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading Comprehension: Score of 85+
Arithmetic: Score of 72 or better
Spatial: 70% or better

Students must maintain a GPA of 2.5 to continue in the program.

Students are accepted through St. Paul Pipefitters Local 455 JAC; 651.846.1699 or www.local455jatc.com.

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Information is subject to change. This Program Requirements Guide is not a contract.
# Plumbing DIPLOMA

## Program Overview
The Plumbing program trains apprentices in commercial, residential, and industrial plumbing. Plumbers install and maintain the water, waste disposal, soil and vent, drainage and gas systems in homes and in commercial and industrial buildings. Plumbers also install faucets, bathtubs, sinks and toilets, and such appliances as dishwashers and water heaters. Plumbers often work from blueprints and specifications and are knowledgeable about building and plumbing codes which govern installations.

Applicants must be high school graduates or equivalent. High school courses in mathematics, science, mechanical drawing and wood or metal shop will be helpful.

## Career Opportunities
According to the U.S. Department of Labor, employment of plumbers is expected to grow as fast as the average for all occupations. Before becoming a journeyperson plumber, the apprentice must pass the Minnesota State Plumbing Examination. Licensing is by the State Board of Health.

## 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.

## Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/transfer.

## Plumbing Diploma
**BS** Operations Management  
Minnesota State University-Moorhead

## Program Start Dates
This part-time, evening program starts each spring. Please check with Rick Gale, Program Coordinator, at 651-846-1389 for information on application deadlines for this program.

## Program Faculty
Adjunct faculty members, who are experienced in plumbing and represent private practice, local government, and industry sectors.

## Restricted Enrollment
The Plumbing Diploma program is a restricted enrollment program offered through the Plumbers and Gasfitters Local 34 and Saint Paul College. Admission to the Plumbing Apprenticeship program is required for enrollment in this diploma program. Those enrolled in the Plumbing Diploma program are subject to the St. Paul Plumbers & Gasfitters Apprenticeship Standards, as well as the Saint Paul College Student Code of Conduct and Academic Integrity Policy. Violations of these standards or policies may result in removal from both the apprenticeship program and the plumbing diploma classes. Concurrent enrollment in both the apprenticeship program and plumbing classes is required. Contact Rick Gale at 651-846-1389 for application information.

## Program Requirements
- **Check off when completed**
- Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLMB 2610 Pre-Apprentice Plumbing</td>
<td>2</td>
</tr>
<tr>
<td>PLMB 2612 Job Safety &amp; Health</td>
<td>2</td>
</tr>
<tr>
<td>PLMB 2614 Applied Math for Plumbing</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2616 Plumbing Welding</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2618 Basic Drawing</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2621 Plumbing 1</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2622 Plumbing 2</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2623 Plumbing 3 Gas Installations and Controls OR PLMB 2650 Industrial Plumbing</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2624 Advanced Plan Reading and Heavy Rigging</td>
<td>4</td>
</tr>
<tr>
<td>PLMB 2631 Plumbing Code 1</td>
<td>2</td>
</tr>
<tr>
<td>PLMB 2632 Plumbing Code 2</td>
<td>2</td>
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<tr>
<td>PLMB 2633 Plumbing Code 3</td>
<td>2</td>
</tr>
<tr>
<td>PLMB 2634 Plumbing Code 4</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Program Credits**: 44

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**Minimum Program Entry Requirements**

Students entering this program must meet the following minimum program entry requirements:

- **Reading**: Score of 74+
- **Writing**: Any
- **Arithmetic**: Score of 49+
- **Spatial assessment required**: Score of 50+
- **Assessment Results and Prerequisites**: Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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Information is subject to change.  
This Program Requirements Guide is not a contract.
Sheet Metal-HVAC Ducts and Fittings AAS DEGREE

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, geometry, and 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.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Sheet Metal/HVAC Ducts & Fittings AAS
BA Individualized Studies Metropolitan State University
BS Operations Management Minnesota State University-Moorhead

Program Faculty
Donaven Chase donaven.chase@saintpaul.edu 651.846.1367

Full-time enrollment is required
Students must be enrolled full time with a cohort of students. Technical courses only offered during days.

Special supplies, tools, and estimated costs
The list for required tools is supplied by the program advisor. The cost of tools for the program is approximately $300. Contact program faculty for more information.

Program Requirements
☐ Check off when completed
Course Cr
☐ SMET 1410 Sheet Metal Fitting Layout and 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
Subtotal .................................................. 37

General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ................................... 7
 ENGL 1711 Composition 1 – 4 cr
 COMM 17XX – 3 cr
☐ Goal 2 or Goal 4 .................................. 6
 Goal 3: Natural Sciences OR
 Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science and Behavioral Sciences ........ 3
☐ Goal 6: Humanities and Fine Arts .......................... 3
 Select a minimum of 4 additional credits
☐ Goals 1 – 10 of the Minnesota Transfer Curriculum . . . . .4
 Select a minimum of 4 additional credits

General Education Requirements .......................... 23
General Education requirement courses may be taken before, after or concurrently with Sheet Metal courses.

Total Program Credits ........................................ 60

Program Start Dates
Fall

Course Sequence
The following sequence is recommended.

First Semester
SMET 1410 Sheet Metal Fitting Layout and 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 1510 Duct System Practical Problem Solving .......................... 2
Goal 1: COMM 17XX ................................... 3
Total Semester Credits .................................. 22

Second Semester
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
Total Semester Credits .................................. 18

General Education Requirements (20 additional credits)
Total Program Credits ........................................ 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 35+
Spatial assessment required: Score 50+ on spatial assessment
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

368A
Sheet Metal-HVAC Ducts and Fittings **DIPLOMA**

**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.

**Transfer Opportunities**
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

**Program Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMET 1410 Sheet Metal Fitting Layout and Design</td>
<td>4</td>
</tr>
<tr>
<td>SMET 1415 OSHA 30 HR Training</td>
<td>2</td>
</tr>
<tr>
<td>SMET 1420 Sheet Metal Fitting Fabrication</td>
<td>4</td>
</tr>
<tr>
<td>SMET 1430 Sheet Metal Drafting &amp; Blueprint Reading</td>
<td>2</td>
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<td>SMET 1440 Sheet Metal Welding</td>
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<tr>
<td>SMET 1450 Sheet Metal Practical Problem Solving</td>
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<tr>
<td>SMET 1510 Duct System Layout &amp; Design</td>
<td>4</td>
</tr>
<tr>
<td>SMET 1520 Duct System Fabrication</td>
<td>4</td>
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<tr>
<td>SMET 1530 Architectural Sheet Metal</td>
<td>4</td>
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<tr>
<td>SMET 1540 Power Machine Operation</td>
<td>3</td>
</tr>
<tr>
<td>SMET 1550 Sheet Metal CAD/CAM Systems</td>
<td>3</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>37</strong></td>
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**General Education/MnTC Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 17XX – 3 cr</td>
<td></td>
</tr>
<tr>
<td><strong>Goal 1: Communication</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>General Education Requirements</strong></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Program Credits**

*Note: Refer to the Minnesota Transfer Curriculum Course List for each Goal Area.*

**Course Sequence**

The following sequence is recommended.

**First Semester**
- SMET 1410 Sheet Metal Fitting Layout and 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

**Second Semester**
- 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

**Total Semester Credits** 22

**Total Program Credits** 40

**Minimum Program Entry Requirements**

Students entering this program must meet the following minimum program entry requirements:

- **Reading:** Score of 60+ or grade of “C” or better in READ 0721
- **Writing:** Score of 38+
- **Arithmetic:** Score of 31+
- **Spatial assessment:** Score 50+ on spatial assessment

**Assessment Results and Prerequisites:**

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Welding Technology DIPLOMA

Program Overview
Welding and fabrication operations require skilled workers who are well-trained in the use of advanced arc welding process, layout fabrication techniques, blueprint reading and measuring devices. Skilled welding fabricators are thoroughly familiar with both welding and shop equipment, understanding the breakdown and setup procedures, test standards, and knowledge of the various 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, it is projected within the next 10 years to see a 15% growth rate, adding 50,000 new jobs.

Welders and fabricators work in manufacturing plants both in structural and non-structural settings as production welders, maintenance welders, specialty welders, layout fabricators, press brake operators, CNC plasma/laser cutting operators, and robotic welding operators. Welding fabrication 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, engineers, technicians, supervisors, Certified Welding Inspectors or private shop owners.

Program Outcomes
1. Graduates will have the knowledge and skills in setup and break-down procedures, test standards, and different types of metals in the fabrication and welding industry.
2. Graduates will have knowledge and skills in OAC (Oxyacetylene Cutting) PAC (Plasma Arc Cutting), SAW (Shielded Metal Arc Welding), GMAW (Gas Metal Arc Welding), GTA (Gas Tungsten Arc Welding), FCAW (Flux Core Arc Welding).
3. Graduates will have acquired supervised hands-on experience in various welding processes.
4. Graduates will be prepared for entry level employment in the welding industry and related fields based on skills acquired in welding, blueprint reading, related math and measuring devices.
5. Graduates will complete the educational program requirements for welding & fabrication through discipline and hard work.
6. Graduates of Welding Technology Program will become critical thinkers in relationship to the welding trades as it pertains to real life roles.

Program Faculty
Todd Hankel todd.hankel@saintpaul.edu
William Schuldt william.schuldt@saintpaul.edu
Caleb Paulson caleb.paulson@saintpaul.edu
Victoria LeMay victoria.lemay@saintpaul.edu

Supply costs
Estimated cost for student supplies $520.

Program Requirements
☐ Check off when completed
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

Course                                                                 Cr
☐ CMAE 1514 Safety Awareness .................................... 2
☐ CMAE 1518 Manufacturing Processes .......................... 2
☐ CMAE 1522 Quality Practices .................................. 2
☐ CMAE 1526 Maintenance Awareness ......................... 2
☐ WLDG 1410 Industrial Shop Practices 1 ....................... 2
☐ WLDG 1410 Welding Basics ...................................... 2
☐ WLDG 1420 SAWM: E6010 ...................................... 2
☐ WLDG 1430 SAWM: E7018 ...................................... 3
☐ WLDG 1440 GMAW Short Arc ................................. 2
☐ WLDG 1450 Intro to Blueprint/Measuring Devices ....... 3
☐ WLDG 1501 Industrial Shop Practices 2 ....................... 2
☐ WLDG 1510 GMAW Spray and Pulse Spray ................. 3
☐ WLDG 1520 GMAW Core Wires .............................. 3
☐ WLDG 1530 Intro to GTA ........................................ 3
☐ WLDG 1540 Blueprint Welding Symbols/Math/Welder Qualification .......................................... 3
☐ WLDG 2401 Industrial Shop Practices 3 ....................... 2
☐ WLDG 2410 GMAW Aluminum and SST .................. 2
☐ WLDG 2420 GTA (Gas Tungsten Arc Welding), FCAW (Flux Core Arc Welding) ......................... 4
☐ WLDG 2430 Grinding and Finishing ......................... 2
☐ WLDG 2441 Intro to Robotic Welding & Fabrication ...... 2

Subtotal ................................................................. 48

Total Program Credits ............................................ 48

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Welding Technology Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student.

First Semester
CMAE 1514 Safety Awareness .................................... 2
WLDG 1410 Industrial Shop Practices 1 ......................... 2
WLDG 1410 Welding Basics ...................................... 2
WLDG 1420 SAWM: E6010 ...................................... 2
WLDG 1430 SAWM: E7018 ...................................... 3
WLDG 1440 GMAW Short Arc ................................. 2
WLDG 1450 Intro to Blueprint/Measuring Devices ....... 3
Total Semester Credits ............................................ 16

Second Semester
CMAE 1518 Manufacturing Processes .......................... 2
WLDG 1501 Industrial Shop Practices 2 ......................... 2
WLDG 1510 GMAW Spray & Pulse Spray ..................... 3
WLDG 1520 GMAW Core Wires .............................. 3
WLDG 1530 Intro to GTA ........................................ 3
WLDG 1540 Blueprint Welding Symbols/Math/Welder Qualification .......................................... 3
Total Semester Credits ............................................ 16

Third Semester
CMAE 1522 Quality Practices .................................. 2
CMAE 1526 Maintenance Awareness ......................... 2
WLDG 2401 Industrial Shop Practices 3 ....................... 2
WLDG 2410 GMAW Aluminum and SST .................. 2
WLDG 2420 GTA (Gas Tungsten Arc Welding), FCAW (Flux Core Arc Welding) ......................... 4
WLDG 2430 Grinding and Finishing ......................... 2
WLDG 2441 Intro to Robotic Welding & Fabrication ...... 2
Total Semester Credits ............................................ 16

Total Program Credits ............................................ 48

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of 'C' or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this diploma.

Information is subject to change.
This Program Requirements Guide is not a contract.
Robotic Welding CERTIFICATE

Program Overview
Professional fabricators and CNC operators are highly skilled individuals who excel in math, geometry, formulations, programming, critical thinking and blueprint reading. Physical requirements include good eyesight, good hand and eye coordination, standing for long periods of time and the ability to perform heavy, physical work.

Robotic welding is an exciting and growing part of the welding profession. Robotic tools can automate some high production applications, such as resistance spot welding and arc welding.

Students must be a graduate of the Welding Technology Diploma (WLDG) or have instructor approval.

Career Opportunities
Fabricators and CNC operators work in manufacturing plants as production welders, specialist welders, layout engineers, press brake and CNC operators both in structural and non-structural settings. Welding/fabricating is widely used in the aircraft, automotive, heavy equipment, sheet metal, and other trades that use fabrication and CNC equipment.

Program Outcomes
1. Graduates will have the knowledge and skills in setup and break-down procedures of CNC equipment including press brake, CNC plasma cutting and robotic welding.
2. Graduates will have knowledge and skills in sheet metal bend deduction formulation.
3. Graduates will have acquired supervised hands-on experience in using various welding and finishing processes and fabrication equipment.
4. Graduates will be prepared for employment in the welding industry and related fabrication fields.

Program Requirements
Students must have a Welding Diploma or instructor approval.
☐ Check off when completed

Course Cr
☐ WLDG 2500 2D CAD ................................ 2
☐ WLDG 2510 Safety ................................ 1
☐ WLDG 2520 CNC Plasma .......................... 2
☐ WLDG 2530 Press Brake Operations .............. 3
☐ WLDG 2540 Robotic Welding Operations .......... 3
☐ WLDG 2550 Industrial Equipment .................. 2
☐ WLDG 2560 Layout Practices ....................... 4

Total Program Credits .......................... 17

Program Faculty
Todd Hankel todd.hankel@saintpaul.edu
Caleb Paulson caleb.paulson@saintpaul.edu

Supply Costs
Estimated cost for student supplies $520.

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student.

First Semester
WLDG 2500 2D CAD .......................... 2
WLDG 2510 Safety ................................ 1
WLDG 2520 CNC Plasma .......................... 2
WLDG 2530 Press Brake Operations .............. 3
WLDG 2540 Robotic Welding Operations .......... 3
WLDG 2550 Industrial Equipment .................. 2
WLDG 2560 Layout Practices ....................... 4
Total Semester Credits .......................... 17

Total Program Credits .......................... 17

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
Program Requirements Guide 2018 - 2019

CNC Toolmaking DIPLOMA

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, 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 machine metal parts. CNC Toolmaking 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 and collaborate with engineers.

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 and 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.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

CNC Toolmaking Diploma
BS Operations Management
Minnesota State University-Moorhead

Program Faculty
Ben Johnson  ben.johnson@saintpaul.edu
Allen Smith  allen.smith@saintpaul.edu
Garrett Byrne  garrett.byrne@saintpaul.edu
Scott Nordahl  scott.nordahl@saintpaul.edu

Estimated Cost for Student Supplies
The estimated cost for student supplies is $850.

Program Requirements
☐ Check off when completed
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

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 1744 Metrology  .......................................... 4
☐ CNCT 2410 Tool Design  ........................................ 4
☐ CNCT 2420 Mechanical Systems/EDM  ...................... 4
☐ CNCT 2430 Mold/Plastic Technology  ..................... 4
☐ CNCT 2440 CNC Applications  ............................ 4
☐ CNCT 2520 CAD  ................................................ 4
☐ CNCT 2530 CNC Lathe  ........................................ 4
☐ CNCT 2540 Computer Aided Manufacturing  ............ 4

Subtotal ................................. 60

General Education/MnTC Requirements
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Any college level general education course  .................. 3
General Education Requirements  ......................... 3

Total Program Credits  ......................... 63

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required.

First Semester
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 2520 CAD  ................................................ 4
Total Semester Credits ........................................ 20

Second Semester
CNCT 1710 Shop Calculations  ........................................ 2
CNCT 1720 Geometric Dimensioning  ..................... 2
CNCT 1730 CNC 1  ........................................ 4
CNCT 1731 CNC 2  ........................................ 4
CNCT 1744 Metrology  .......................................... 4
CNCT 2540 Computer Aided Manufacturing  ............ 4
Total Semester Credits ........................................ 20

Summer Term
General Education Requirement (any)  .................. 3
May be taken any semester, but Summer Term is recommended.
Total Credits ........................................ 3

Third Semester
CNCT 2410 Tool Design  ........................................ 4
CNCT 2420 Mechanical Systems/EDM  ...................... 4
CNCT 2430 Mold/Plastic Technology  ..................... 4
CNCT 2440 CNC Applications  ............................ 4
CNCT 2530 CNC Lathe  ........................................ 4
Total Semester Credits ........................................ 20

Total Program Credits  ......................... 63

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

249D (7120)
Program Overview
The Right Skills Now (for Manufacturing) certificate is designed to provide training in the following areas: Job planning, benchwork, materials, manual milling, manual turning, blue print reading, CNC milling and CNC turning. This program was designed to address the current shortage of CNC operators. Graduates from this program are prepared to enter the industry as entry-level manual and CNC machine tool production operators with minimum skills.

The Right Skills Now (for Manufacturing) certificate will introduce manufacturing workplace safety, blueprint reading, general manufacturing processes, basic production manual machining skills, and introduction to operations.

The curriculum closely aligns with standards set forth by the National Institute of Metalworking Skills (NIMS). Students may choose to apply these credits towards a Machine Tool Diploma. The additional coursework will enhance the students’ communication, mathematics, machining, CAD/CAM, and critical thinking skills.

Career Opportunities
Right Skills Now is a pathway of the National Association of Manufacturers (NAM)–Endorsed Manufacturing Skills Certification System, which includes nationally portable, industry-recognized certifications that are combined with for-credit education programs. These education pathways are directly aligned to career pathways in manufacturing, so students progressing through the programs earn college credit towards a degree, have an opportunity to earn a national certification with labor market value, and the hands-on technical experience to be successful on the job.

Program Requirements
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

Course
☐ CNCT 1410 Introduction to Manufacturing Processes ........................................ 4
☐ CNCT 1420 Engineering Drawing .......................................................... 4
☐ CNCT 1430 Materials Processes 1 ......................................................... 4
☐ CNCT 1431 Materials Processes 2 ......................................................... 4
☐ CNCT 2550 Industry Internship ......................................................... 4

Total Program Credits .......................................................... 20

* Students are responsible for their own transportation to and from the internship site. Internship locations may not be accessible through public transportation.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 38+
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites

Information is subject to change.
This Program Requirements Guide is not a contract.
Individualized Studies  AAS DEGREE

Program Overview
The Individualized Studies degree is a personalized degree which provides students the opportunity to fulfill a unique career goal that cannot be met through the completion of any single technical program offered by the College. An example would be the combination of a technical program (e.g. automotive technology) with technical coursework in business for those planning to open their own automotive repair business. In the first semester of the Individualized Studies degree, students work to design a degree plan that meets their individualized educational needs while also fulfilling 16 credits within the Minnesota Transfer Curriculum. Students will develop an individualized program sequence through a structured advising process with faculty and college advisor, to facilitate meeting the requirements of the AAS degree in Individualized Studies.

Career Opportunities
The Individualized Studies AAS degree is intended for students who select a unique degree that meets their career interests. Career opportunities include personally owned business; advancement to middle management, sales, and training in the area of their discipline.

Program Outcomes
1. Graduates will have designed an individualized studies learning plan that focuses on work and life goals.
2. Graduates will recognize the need for and develop an ability to engage in life-long professional development and learning.

Program Requirements
☐ Check off when completed

Recommended Courses
☐ IND 1401 Study Skills and Strategies for Individualized Studies Planning ................ 3
Subtotal ........................................ 3

Program Focus: Approved Course Plan
Specific plan will be determined after meeting with the Program Faculty or Dean. Courses will be selected from existing technical coursework on campus.
Subtotal ........................................ 41

General Education/MnTC Requirements
☐ ENGL 1711 Composition 1 – 4 cr
☐ COMM 17XX – 3 cr
☐ Goal 1: Communication ...................... 7
☐ Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning .......... 3
☐ Goal 5 History, Social Science and Behavioral Sciences ................................. 3
☐ Goal 6: Humanities & Fine Arts ............... 3
General Education Requirements .............. 16

Total Program Credits .......................... 60

Note: Any changes or modification of the program plan must be approved by the Dean.

Program Dean
Career and Technical Education
Rainer Haarbusch
rainer.haarbusch@saintpaul.edu

Health Sciences and Service
Brendan L. Ashby  brendan.ashby@saintpaul.edu

Program Start Dates
Fall, Spring, Summer

Course Sequence
First Semester
INDS 1401 Study Skills and Strategies for Individualized Studies Planning: ................. 3
Total Semester Credits: ......................... 3

First, Second, Third and Fourth Semesters
Specific plan will be determined after meeting with the Program Faculty or Dean. Courses will be selected from existing technical coursework on campus.

Total Program Credits .......................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Automation Technologies CERTIFICATE
An eTECH 360° Program

Program Overview
This certificate will provide students with knowledge of manufacturing processes and plant operations, along with an advanced skill set in electronic and automotive systems. Students will engage in coursework topics of technical mathematics, introductory computer skills, print interpretation, manufacturing processes, quality control, maintenance and safety. Also included in coursework is an advanced skill set of AC/DC power, digital electronics, analog circuits, and motor controls.

Career Opportunities
The nationwide Manufacturing Skills Standards Council (MSSC) System, based upon industry-defined and federally-endorsed national standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century. The MSSC System awards certificates to individuals who pass any of its four Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production; and Maintenance Awareness and a full Certified Production Technician (CPT) Certification to those who pass all four. Students completing this Certificate will have gained the knowledge required to pass the MSSC full-certified Production Technician Certification.

According to the Manufacturing Career Network, manufacturing is the second largest industry in Minnesota, second only to educational services, healthcare and social assistance. Minnesota manufacturers employ 390,435 people, which represents 14.4 percent of total employment. Further, manufacturing jobs in the state pay wages that are approximately 8 percent higher than those paid to the rest of the workforce. These numbers are evidence that a thriving manufacturing sector is critical to the state economy.

eTECH Programs
The eTECH programs are offered by a group of partner institutions working together integrates traditional classroom learning with partial on-site lab work for the online delivery of courses where learners can advance their skills in manufacturing and engineering, while continuing to work in their current profession. Many courses are available online. The programs are designed to offer entry-level and operator-level skills and knowledge, which prepares them for a career, instead of just an entry-level job. Because eTECH is part of the 360° consortium of two-year colleges and a four-year university, it provides a unique ability to implement seamless career pathways from secondary to two-year college to four-year university.

Program Outcomes
Graduates will be able to:
1. Identify and apply appropriate safety procedures.
2. Apply knowledge and skills in electrical systems.
3. Use and understand test equipment for analysis.
4. Design, build, and troubleshoot circuits.
5. Analyze and apply specific manufacturing process procedures.
6. Identify and apply specific quality procedures.
7. Interpret symbols and blueprints accurately for a variety of projects.

Program Faculty
This program is taught by a variety of faculty from consortium schools.
Rainer Haarbusch rainer.haarbusch@saintpaul.edu

Program Requirements
☐ Check off when completed
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1502 Technical Math</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1510 Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1550 DC Power</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1552 AC Power</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1506 Intro to Computers</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1554 Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1556 Analog Circuits</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1558 Motor Controls</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Program Credits: 30

Program Start Date
Fall, Spring

Course Sequence
First Semester (First 8 weeks)
- CMAE 1502 Technical Math: 3 credits
- CMAE 1510 Print Reading: 2 credits
- CMAE 1550 DC Power: 3 credits

(Second 8 weeks)
- CMAE 1518 Manufacturing Processes: 2 credits
- CMAE 1514 Safety Awareness: 2 credits
- CMAE 1552 AC Power: 3 credits

Total Semester Credits: 15

Second Semester (First 8 Weeks)
- CMAE 1506 Intro to Computers: 2 credits
- CMAE 1554 Digital Electronics: 3 credits
- CMAE 1556 Analog Circuits: 3 credits

(Second 8 Weeks)
- CMAE 1526 Maintenance Awareness: 2 credits
- CMAE 1522 Quality Practices: 2 credits
- CMAE 1558 Motor Controls: 3 credits

Total Semester Credits: 15

Total Program Credits: 30

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 52+
Writing: Any
Arithmetic: Score of 45+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. 
This Program Requirements Guide is not a contract.
Machine Technologist CERTIFICATE
An eTECH 360° Program

Program Overview
This certificate will provide students with knowledge of manufacturing processes and plant operations, along with an advanced skill set in machine tool technology. 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.

Career Opportunities
The nationwide Manufacturing Skills Standards Council (MSSC) System, based upon industry-defined and federally-endorsed national standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century. The MSSC System awards certificates to individuals who pass any of its four Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production; and Maintenance Awareness and a full Certified Production Technician (CPT) Certification to those who pass all four. Students completing this Certificate will have gained the knowledge required to pass the MSSC full-certified Production Technician Certification.

According to the Manufacturing Career Network, manufacturing is the second largest industry in Minnesota, second only to educational services, healthcare and social assistance. Minnesota manufacturers employ 390,435 people, which represents 14.4 percent of total employment. Further, manufacturing jobs in the state pay wages that are approximately 8 percent higher than those paid to the rest of the workforce. These numbers are evidence that a thriving manufacturing sector is critical to the state economy.

eTECH Programs
The eTECH programs are offered by a group of partner institutions working together integrates traditional classroom learning with partial on-site lab work for the online delivery of courses where learners can advance their skills in manufacturing and engineering, while continuing to work in their current profession. Many courses are available online. The programs are designed to offer entry-level and operator-level skills and knowledge, which prepares them for a career, instead of just an entry-level job. Because eTECH is part of the 360° consortium of two-year colleges and a four-year university, it provides a unique ability to implement seamless career pathways from secondary to two-year college to four-year university.

Program Outcomes
Graduates will be able to:
1. Identify and apply appropriate safety procedures.
2. Apply knowledge and skills to make precision-machined parts and tooling.
3. Apply knowledge and skills to operate and set-up inspection and gauging equipment.
4. Demonstrate an understanding of computer numerically controlled machining centers.
5. Analyze and apply specific manufacturing process procedures.
6. Identify and apply specific quality procedures.
7. Interpret symbols and blueprints accurately for a variety of projects.

Program Faculty
This program is taught by a variety of faculty from consortium schools.
Rainer Haarbusch rainer.haarbusch@saintpaul.edu

Program Requirements
☐ Check off when completed

Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

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<tr>
<td>CMAE 1518 Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1530 Machining Math</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1532 Machine Tool Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1506 Intro to Computers</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1534 Machine Tool Technology Theory</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1536 Machine Tool Technology Lab 1</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1542 Geo Dimensioning and Tolerancing</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1538 Machine Tool Technology Lab 2</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1540 Introduction to CNC</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Program Credits ....................... 30

Program Start Date
Fall, Spring

Course Sequence

First Semester (First 8 weeks)
CMAE 1502 Technical Math .................. 3
CMAE 1510 Print Reading ................... 2

(Second 8 weeks)
CMAE 1518 Manufacturing Processes ....... 2
CMAE 1514 Safety Awareness ............... 2
CMAE 1530 Machining Math ................ 2
CMAE 1532 Machine Tool Print Reading .... 2
Total Semester Credits ..................... 13

Second Semester (First 8 Weeks)
CMAE 1506 Intro to Computers ............. 2
CMAE 1534 Machine Tool Technology Theory | 2 |
CMAE 1536 Machine Tool Technology Lab 1 .. 2
CMAE 1542 Geo Dimensioning and Tolerancing | 2 |
(Second 8 Weeks)
CMAE 1526 Maintenance Awareness .......... 2
CMAE 1522 Quality Practices ............. 2
CMAE 1538 Machine Tool Technology Lab 2 .. 2
CMAE 1540 Introduction to CNC ............ 3
Total Semester Credits ..................... 17
Total Program Credits ...................... 30

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 52+
Writing: Any
Arithmetic: Score of 45+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Machining and Automation DIPLOMA
An eTECH 360° Program

Program Overview
This diploma will provide students with a valuable skill set designed to meet the needs of the advanced manufacturing industry. Students may choose the Machining and Automation emphasis. Through coursework, the student will develop fundamental knowledge of manufacturing processes, safety, quality, machine tool technology, and automation technology.

Career Opportunities
The nationwide Manufacturing Skills Standards Council (MSSC) System, based upon industry-defined and federally-endorsed national standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century. The MSSC System awards certificates to individuals who pass any of its four Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production; and Maintenance Awareness and a full Certified Production Technician (CPT) Certification to those who pass all four. Students completing this Diploma will have gained the knowledge required to pass the MSSC full-certified Production Technician Certification.

According to the Manufacturing Career Network, manufacturing is the second largest industry in Minnesota, second only to educational services, healthcare and social assistance. Minnesota manufacturers employ 390,435 people, which represents 14.4 percent of total employment. Further, manufacturing jobs in the state pay wages that are approximately 8 percent higher than those paid to the rest of the workforce. These numbers are evidence that a thriving manufacturing sector is critical to the state economy.

eTECH Programs
The eTECH programs are offered by a group of partner institutions working together to integrate traditional classroom learning with partial on-site lab work for the online delivery of courses where learners can advance their skills in manufacturing and engineering, while continuing to work in their current profession. Many courses are available online. The programs are designed to offer entry-level and operator-level skills and knowledge, which prepares them for a career, instead of just an entry-level job. Because eTECH is part of the 360° consortium of two-year colleges and a four-year university, it provides a unique ability to implement seamless career pathways from secondary to two-year college to four-year university.

Program Requirements
☐ Check off when completed
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

Course
☐ CMAE 1502 Technical Math .................. 3
☐ CMAE 1510 Print Reading .................... 2
☐ CMAE 1550 DC Power ....................... 3
☐ CMAE 1514 Manufacturing Processes ...... 2
☐ CMAE 1514 Safety Awareness ............... 2
☐ CMAE 1552 AC Power ....................... 3
☐ CMAE 1506 Intro to Computers ............. 2
☐ CMAE 1554 Digital Electronics ............. 3
☐ CMAE 1556 Analog Circuits ................. 3
☐ CMAE 1526 Maintenance Awareness ....... 2
☐ CMAE 1550 Machine Tool Technology Lab 2 2
☐ CMAE 1558 Motor Controls ................. 3
☐ CMAE 1530 Machining Math ................. 2
☐ CMAE 1532 Machine Tool Print Reading ... 2
☐ CMAE 1534 Machine Tool Technology Theory 2
☐ CMAE 1536 Machine Tool Technology Lab 1 ... 2
☐ CMAE 1542 Geo Dimensioning and Tolerancing 2
☐ CMAE 1538 Machine Tool Technology Lab 2 ... 2
☐ CMAE 1540 Introduction to CNC ........... 3

Subtotal. .................................. 45

General Education
☐ MATH 1730 College Algebra .................. 3
☐ ENGL 1711 Composition 1 .................... 4

Total General Education .................. 7

Total Program Credits .................. 52

Program Outcomes
Graduates will be able to:
1. Identify and apply appropriate safety procedures.
2. Apply knowledge and skills in electrical systems.
3. Apply knowledge and skills to make precision-machined parts and tooling.
4. Apply knowledge and skills to operate and set-up inspection and gauging equipment.
5. Analyze and apply specific manufacturing process procedures.
6. Identify and apply specific quality procedures.
7. Interpret symbols and blueprints accurately for a variety of projects.
8. Demonstrate effective oral and written communications.

Program Faculty
This program is taught by a variety of faculty from consortium schools.
Rainer Haarbusch rainer.haarbusch@saintpaul.edu

Program Requirements Guide 2018 - 2019

Information is subject to change.
This Program Requirements Guide is not a contract.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 52+
Writing: Any
Arithmetic: Score of 45+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements Guide 2018 - 2019

Production Technologies CERTIFICATE
An eTECH 360° Program

Program Overview
This certificate will provide students with the training, education, and skills to build a base knowledge of manufacturing processes and plant operations, generally for entry-level positions. Graduates can use the knowledge gained in this Certificate to build upon a manufacturing career path leading to higher-level careers like Automation, Machining, and Welding. Students will engage in coursework topics of career success skills, technical mathematics, introductory computer skills, print interpretation, manufacturing processes, quality control, maintenance, and safety.

Career Opportunities
The nationwide Manufacturing Skills Standards Council (MSSC) System, based upon industry-defined and federally-endorsed national standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century. The MSSC System awards certificates to individuals who pass any of its four Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production; and Maintenance Awareness and a full Certified Production Technician (CPT) Certification to those who pass all four. Students completing the Production Technologies Certificate will have gained the knowledge required to pass the MSSC full-certified Production Technician Certification.

According to the Manufacturing Career Network, manufacturing is the second largest industry in Minnesota, second only to educational services, healthcare and social assistance. Minnesota manufacturers employ 390,435 people, which represents 14.4 percent of total employment. Further, manufacturing jobs in the state pay wages that are approximately 8 percent higher than those paid to the rest of the workforce. These numbers are evidence that a thriving manufacturing sector is critical to the state economy.

eTECH Programs
The eTECH programs are offered by a group of partner institutions working together integrates traditional classroom learning with partial on-site lab work for the online delivery of courses where learners can advance their skills in manufacturing and engineering, while continuing to work in their current profession. Many courses are available online. The programs are designed to offer entry-level and operator-level skills and knowledge, which prepares them for a career, instead of just an entry-level job. Because eTECH is part of the 360° consortium of two-year colleges and a four-year university, it provides a unique ability to implement seamless career pathways from secondary to two-year college to four-year university.

Program Outcomes
Graduates will be able to:
1. Identify and apply appropriate safety procedures.
2. Use technical mathematics to solve problems.
3. Demonstrate use of common computer software.
4. Analyze and apply specific manufacturing process procedures.
5. Identify and apply specific quality procedures.
6. Interpret symbols and blueprints accurately for a variety of projects.
7. Identify appropriate and inappropriate professional behavior.

Program Faculty
This program is taught by a variety of faculty from consortium schools. Rainer Haarbusch rainer.haarbusch@saintpaul.edu

Program Requirements
☐ Check off when completed
Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

Course Cr
☐ CMAE 1502 Technical Math ................... 3
☐ CMAE 1510 Print Reading .................... 2
☐ CMAE 1518 Manufacturing Processes .......... 2
☐ CMAE 1514 Safety Awareness ................. 2
☐ CMAE 1506 Intro to Computers ............... 2
☐ CMAE 1526 Maintenance Awareness .......... 2
☐ CMAE 1528 Career Success Skills ............ 1
☐ CMAE 1522 Quality Practices ................. 2

Total Program Credits ....................... 16

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 52+
Writing: Any
Arithmetic: Score of 45+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Start Date
Fall, Spring

Course Sequence

First Semester (First 8 weeks)
CMAE 1502 Technical Math .................... 3
CMAE 1510 Print Reading .................... 2

(Second 8 weeks)
CMAE 1518 Manufacturing Processes .......... 2
CMAE 1514 Safety Awareness ................. 2

Total Semester Credits ..................... 9

Second Semester (First 8 Weeks)
CMAE 1506 Intro to Computers ............... 2
CMAE 1528 Career Success Skills ............ 1
(Second 8 Weeks)
CMAE 1526 Maintenance Awareness .......... 2
CMAE 1522 Quality Practices ................. 2

Total Semester Credits ..................... 7

Total Program Credits .................... 16
Welding Technology **CERTIFICATE**

An eTECH 360° Program

**Program Overview**
This certificate will provide students with knowledge of manufacturing processes and plant operations, along with an advanced skill set in welding technology and processes. 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 welding symbols, metallurgy, Plasma Arc Cutting and Air Carbon Arc Cutting (OxyFuel), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW).

**Career Opportunities**
The nationwide Manufacturing Skills Standards Council (MSSC) System, based upon industry-defined and federally-endorsed national standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century. The MSSC System awards certificates to individuals who pass any of its four Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production; and Maintenance Awareness and a full Certified Production Technician (CPT) Certification to those who pass all four. Students completing this Certificate will have gained the knowledge required to pass the MSSC full-certified Production Technician Certification.

According to the Manufacturing Career Network, manufacturing is the second largest industry in Minnesota, second only to educational services, healthcare and social assistance. Minnesota manufacturers employ 390,435 people, which represents 14.4 percent of total employment. Further, manufacturing jobs in the state pay wages that are approximately 8 percent higher than those paid to the rest of the workforce. These numbers are evidence that a thriving manufacturing sector is critical to the state economy.

**eTECH Programs**
The eTECH programs are offered by a group of partner institutions working together integrates traditional classroom learning with partial on-site lab work for the online delivery of courses where learners can advance their skills in manufacturing and engineering, while continuing to work in their current profession. Many courses are available online. The programs are designed to offer entry-level and operator-level skills and knowledge, which prepares them for a career, instead of just an entry-level job. Because eTECH is part of the 360° consortium of two-year colleges and a four-year university, it provides a unique ability to implement seamless career pathways from secondary to two-year college to four-year university.

**Program Outcomes**
Graduates will be able to:
1. Identify and apply appropriate safety procedures.
2. Analyze and apply specific manufacturing process procedures.
3. Identify and apply specific quality procedures.
4. Identify and select the proper filler metal dependent on base metal to be welded.
5. Troubleshoot and solve common problems involved with everyday use of a welding machine.
6. Fabricate several different welding projects to demonstrate expected skills required by industry standards.
7. Interpret symbols and blueprints accurately for a variety of projects.

**Program Faculty**
This program is taught by a variety of faculty from consortium schools.

Rainer Haarbusch rainer.haarbusch@saintpaul.edu

**Program Requirements**

<table>
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<td>CMAE 1562 Oxy Fuel</td>
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<td>CMAE 1566 Gas Metal Arc Welding</td>
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<td>CMAE 1570 Metallurgy</td>
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<td>CMAE 1566 GMAW/FCAW</td>
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<td>CMAE 1560 Interpreting Symbols</td>
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<tr>
<td>CMAE 1568 GTAW</td>
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<tr>
<td>CMAE 1522 Quality Practices</td>
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</tr>
</tbody>
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**Total Program Credits** .................................. 30

**Program Start Date**
Fall, Spring

**Course Sequence**

**First Semester (First 8 Weeks)**
CMAE 1502 Technical Math ............................ 3
CMAE 1510 Print Reading .............................. 2
CMAE 1518 Manufacturing Processes ................. 2
CMAE 1562 Oxy Fuel .................................. 2
CMAE 1566 Gas Metal Arc Welding .................... 3
CMAE 1570 Metallurgy ................................ 1
CMAE 1566 GMAW/FCAW ................................ 3
CMAE 1514 Safety Awareness .......................... 2
CMAE 1560 Interpreting Symbols ........................ 2
CMAE 1568 GTAW ....................................... 3
CMAE 1522 Quality Practices ........................... 2

**Second Semester (First 8 Weeks)**
CMAE 1506 Intro to Computers .......................... 2
CMAE 1564 SMAW ........................................ 3
CMAE 1526 Maintenance Awareness ..................... 2
CMAE 1570 Metallurgy .................................. 1
CMAE 1566 GMAW/FCAW ................................ 3
CMAE 1514 Safety Awareness .......................... 2
CMAE 1560 Interpreting Symbols ........................ 2

**Total Semester Credits** ................................ 8

**Third Semester (First 8 Weeks)**
CMAE 1566 GMAW/FCAW ................................ 3
CMAE 1514 Safety Awareness .......................... 2
CMAE 1560 Interpreting Symbols ........................ 2

**Total Semester Credits** ................................ 7

**Fourth Semester (First 8 Weeks)**
CMAE 1568 GTAW ........................................ 3
CMAE 1522 Quality Practices ........................... 2

**Total Semester Credits** ................................ 5

**Total Program Credits** ................................ 30

**Minimum Program Entry Requirements**
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 52+
**Writing:** Any
**Arithmetic:** Score of 45+
*Assessment Results and Prerequisites:* Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

*Information is subject to change. This Program Requirements Guide is not a contract.*
### Health Science Programs

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- Sport and Exercise Sciences Diploma (50 Credits) .......... 128
- Sport and Exercise Sciences Certificate (30 Credits) ..... 129
- Registered Yoga Teacher Certificate (16 Credits) .......... 130
Esthetician Spa AAS DEGREE

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

The Esthetician Spa AAS Degree is designed for future employment in a spa/resort setting. This program also prepares the student for the CIDESCO examination.

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 dermatologist, plastic surgeon's offices and hospitals. CIDESCO certification holders are able to license as an esthetician technician, certify as a massage therapist and license as a nail technician upon completion of clinical nail hours. Cross-trained therapists are able to work in spas, medical offices, cruise ships and 5 star resorts.

Licensing or certification exams are independent of graduation requirements.

Program Outcomes
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).
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.
9. Graduates will be prepared to take the CIDESCO exam.
10. Graduates will have knowledge and skills in spa operations focusing on therapeutic skin and body services.
11. Graduates will be prepared for employment as a CIDESCO diploma holder.

Textbook and Supply Costs
Students should expect to spend approximately $1900.00 for esthetics books and supplies (first semester). Tuition, college fees and books for remaining courses are not included in this cost. Items can be purchased in the College Bookstore. Be prepared to purchase all Esthetics kits with the instructor on the second day of class.

Financial aid must have been completed. In addition, there is a fee to take the Minnesota licensure exam.

Course Sequence

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements Guide

Esthetician Spa  AAS DEGREE (continued)

Course Sequence
The following course sequence is required. Not all courses are offered during summer session.

First Semester
CHSN 1598 Body Systems & Diseases (online) .......... 4
This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652
CHSN 1599 Preclinic Introduction (online) .......... 4
This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652
ESTH 1645 Cosmetic Chemistry & Makeup Applications .......... 4
This course is a prerequisite to ESTH 1650
ESTH 1650 Skin Analysis and Massage .......... 4
ESTH 1651 Clinic 1 for Estheticians .......... 4
ESTH 1652 Clinic 2 for Estheticians .......... 4
Total Semester Credits ........................................ 24

Second Semester
COSM 1603 Preclinic Nail Care .................... 3
HLTH 1410 Medical Terminology .................... 1
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .......... 4
MASS 1400 Introduction to Therapeutic Massage .......... 4
Goal 1: COMM 17XX .................................. 3
Goal 3: BIOL 1760 Nutrition .................... 3
Total Semester Credits ........................................ 18

Third Semester
MASS 1421 Massage Spa Techniques .......... 2
MASS 1422 Massage Clinical Techniques .......... 4
MASS 1480 Massage Therapy Practicum .......... 4
Total Semester Credits ........................................ 10

Fourth Semester
ESTH 1670 CIDESCO Exam Student Prep .......... 3
Offered summer semester only
Goal 1: ENGL 1711 Composition 1 .......... 4
Goal 3: CHEM 1711 Principles of Chemistry 1 .......... 4
Goal 5: History, Social Science and Behavioral Sciences .......... 3
Total Semester Credits ........................................ 14

Total Program Credits ...................... 66

Cosmetology Student Handbook/Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook. After you have read the handbook, you MUST print and sign: Student Agreement Form, Hepatitis B Vaccination/Declination Form, Property and Equipment Form, and Rollabout Form and return them to your instructor on the FIRST DAY of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester. Please direct questions to the assigned instructor of your first class.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Esthetician Spa AAS
BA  Health Care Administration
   Concordia University, St. Paul
BA  Individualized Studies
   Metropolitan State University
BS  Healthcare and Human Service Management
   Saint Mary's University-Twin Cities Campus
Esthetician Advanced Practice AAS DEGREE

Program Overview
Esthetician Advanced Practice includes specialized work with skin care products, analysis of skin, skin exfoliation, massage techniques, and facials. Students learn to tint brows and lashes, apply makeup, provide temporary hair removal, and to use machines designed to administer skin treatments.

The Esthetician Advanced Practice AAS degree is designed for work in medical clinics or treatment centers. Program enrollment requires current Minnesota Esthetics or Cosmetology license.

Career Opportunities
After esthetician students complete 600 hours of skills and theory training and pass the written exam through the College Bookstore. Be prepared to purchase all Esthetics kits with the instructor on the first day of class.

Financial aid must have been completed. In addition, there is a fee to take the Minnesota licensure exam.

Program Requirements

- Check off when completed
- Required Program Orientation
- All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course | Cr
--- | ---
CHSN 1598 Body Systems & Diseases (online) | 4
CHSN 1599 Preclinic Introduction (online) | 4
ESTH 1645 Cosmetic Chemistry & Makeup Applications | 4
ESTH 1650 Skin Analysis & Massage | 4
ESTH 1651 Clinic 1 for Estheticians | 4
ESTH 1652 Clinic 2 for Estheticians | 4
ESTH 1710 Risk Management for Estheticians (online) | 2
ESTH 1712 Advanced Exfoliation | 4
ESTH 1714 Advanced Skin Care Techniques | 5
ESTH 1716 Advanced Clinic 1 for Estheticians | 4
ESTH 1718 Advanced Clinic 2 for Estheticians | 4
Subtotal | 43

General Education/MnTC Requirements | Cr
--- | ---
Goal 1: Communication | 7
ENG 1711 Composition 1 - 4 cr
COMM 1720 Interpersonal Communication - 3 cr
Goal 3: Natural Sciences | 4
CHEM 1711 Principles of Chemistry 1 - 4 cr
Goal 5: History, Social Science and Behavioral Sciences | 3
PSYC 1720 Psychology Throughout the Lifespan | 3
Goal 6: Humanities & Fine Arts | 3
General Education Requirements | 17
Total Program Credits | 60

Information is subject to change.
This Program Requirements Guide is not a contract.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

- **Reading:** Score of 60+ or grade of “C” or better in READ 0721
- **Writing:** Score of 60+ or grade of “C” or better in ENGL 0921
- **Elementary Algebra:** Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Course Sequence
The following course sequence is required.

First Semester
Clinical experience conducted at our affiliate location
CHSN 1598 Body Systems & Diseases (online) ........ 4
   *This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652*
CHSN 1599 Preclinic Introduction (online) ............ 4
   *This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652*
ESTH 1645 Cosmetic Chemistry & Makeup Applications ........................................ 4
   *This course is a prerequisite to ESTH 1650*
ESTH 1650 Skin Analysis and Massage .................. 4
ESTH 1651 Clinic 1 for Estheticians ..................... 4
ESTH 1652 Clinic 2 for Estheticians ..................... 4
Total Semester Credits ........................................ 24

Second Semester
ESTH 1710 Risk Management for Estheticians (online) ........ 2
ESTH 1712 Advanced Exfoliation .......................... 4
ESTH 1714 Advanced Skin Care Techniques ............... 5
ESTH 1716 Advanced Clinic 1 for Estheticians .......... 4
ESTH 1718 Advanced Clinic 2 for Estheticians .......... 4
Total Semester Credits ........................................ 19

Third Semester
Goal 1: ENGL 1711 Composition I .......................... 4
Goal 3: CHEM 1711 Principles of Chemistry 1 .......... 4
Total Semester Credits ........................................ 8

Fourth Semester
Goal 1: COMM 1720 Interpersonal Communication ........ 3
Goal 5: PSYC 1720 Psychology Throughout the Lifespan ........ 3
Goal 6: Humanities and Fine Arts ......................... 3
Total Semester Credits ........................................ 9

Total Program Credits ........................................ 60

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.
For more information please go to saintpaul.edu/Transfer.

Esthetician Advanced Practice AAS
BA  Health Care Administration
    Concordia University, St. Paul
BA  Individualized Studies
    Metropolitan State University
BS  Healthcare and Human Service Management
    Saint Mary’s University-Twin Cities Campus
Esthetician DIPLOMA

Program Overview
Esthetic services include specialized work with skin care products, analysis of skin, massage techniques and facials. Students learn to tint brows and lashes, apply makeup, provide temporary hair removal and to use machines designed to administer skin treatments. The Esthetic diploma program prepares the student for the CIDESCO examination.

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, dermatologist, plastic surgeon offices and hospitals.

The Esthetic diploma program is designed to administer skin treatments. Esthetician services include specialized work with skin care products, analysis of skin, massage techniques and facials. Students learn to tint brows and lashes, apply makeup, provide temporary hair removal and to use machines designed to administer skin treatments. The Esthetic diploma program prepares the student for the CIDESCO examination.

Program Outcomes
1. Graduates will have knowledge and skills in esthetician (skin) services.
2. Graduates will have knowledge and skills in salon operations focusing on skin services.
3. Graduates will possess knowledge and skills for personal care of the skin.
4. Graduates will be prepared for employment as an esthetician.
5. Graduates will have the knowledge and skills for work and life roles.
6. Graduates will have knowledge in cosmetic care product ingredients.
7. Graduates will be prepared to take the CIDESCO exam.
8. Graduates will have knowledge and skills in spa operations focusing on therapeutic skin and body services.
9. Graduates will be prepared for employment as a CIDESCO certification holder.

Textbook and Supply Costs
Students should expect to spend approximately $1,900.00 for esthetics books and supplies (first semester). Tuition, college fees and books for remaining courses are not included in this cost. Items can be purchased in the College Bookstore. In addition, there is a fee to take the Minnesota licensure exam.

Be prepared to purchase all Esthetics kits with the instructor on the second day of class. Financial aid must have been completed.

CIDESCO Certification Exam
Graduates of this diploma program are eligible to take the CIDESCO certification exam. The cost of this exam is approximately $350.00 for under graduate students and approximately $650.00 for post graduate students. After passing the CIDESCO exam a fee of $65.00 is charged for the CIDESCO diploma and pin.

ESTH 1670 CIDESCO Exam Student Preparation class and the CIDESCO exam is offered summer semester only.

The Esthetician Diploma will meet the criteria for the CIDESCO exam requirement of 1200 hours of training in skin, massage and nail services.

The CIDESCO examination includes:
- a facial examination
- a body examination
- a waxing examination
- a make-up examination
- a tinting examination
- a massage examination
- an additional subject, and
- a written examination.

CIDESCO
Saint Paul College – A Community and Technical College Esthetician Program is a CIDESCO school. This means the program is allowed to prepare candidates for the CIDESCO examination.

CIDESCO is the World’s Major International Beauty Therapy Association:
- Founded in 1946 with its Head Office in Zurich, Switzerland.
- CIDESCO is represented in over 37 countries.
- The CIDESCO Diploma is the world’s most prestigious qualification in the field of Aesthetics and Beauty Therapy.
- Since 1957, the CIDESCO qualification has set standards that have been initiated over the five continents of the globe.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ on Reading Comprehension or grade “C” or better in ENGL 0921
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Program Faculty
Lyubov Babina  lyubov.babina@saintpaul.edu

Program Start Dates
Fall, Spring
Summer – online CHSN 1598 & CHSN 1599 only

Course Sequence
The course sequence listed on the back of this guide is required.

Cosmetology Student Handbook/Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook. After you have read the handbook, you must print and sign Student Agreement Form, Hepatitis B Vaccination/Declination Form, Property and Equipment Form, and Rollabout Form and return them to your instructor on the first day of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester. Please direct questions to the assigned instructor of your first class.

Information is subject to change. This Program Requirements Guide is not a contract.
Program Requirements

☐ Check off when completed

☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course Cr
☐ CHSN 1598 Body Systems & Diseases (online) ................ 4
☐ CHSN 1599 Preclinic Introduction (online) .................... 4
☐ COSM 1603 Preclinic Nail Care .................................. 3
☐ COSM 1908 Clinic 1 for Nail Technicians ..................... 3
☐ ESTH 1645 Cosmetic Chemistry & Makeup Applications ........ 4
☐ ESTH 1650 Skin Analysis and Massage ....................... 4
☐ ESTH 1651 Clinic 1 for Estheticians ......................... 4
☐ ESTH 1652 Clinic 2 for Estheticians ......................... 4
☐ ESTH 1670 CIDESCO Exam Student Preparation ........... 3
This course is offered only Summer Term
☐ HLTH 1410 Medical Terminology .......................... 1
☐ HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .................. 4
☐ HLTH 1425 Clinical Applications in Kinesiology ...... 3
☐ 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
Subtotal .................................. 55

General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication .......................... 3
COMM 17XX (COMM 1720 Interpersonal Communication recommended) 3 cr
☐ Goal 3: Natural Sciences .................................. 3
BIOL 1760 Nutrition 3 cr
☐ Goals 1-10 of the Minnesota Transfer Curriculum .................. 3
Select a minimum of 3 additional credits
General Education Requirements .......................... 9

Total Program Credits .......................... 64

Course Sequence

The following course sequence is required. Not all courses are offered each semester.

First Semester
CHSN 1598 Body Systems & Diseases (online) ................ 4
This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652
CHSN 1599 Preclinic Introduction (online) .................... 4
This course is a prerequisite to or must be taken concurrently with ESTH 1645, ESTH 1650, ESTH 1651 and ESTH 1652
ESTH 1645 Cosmetic Chemistry & Makeup Applications .................. 4
ESTH 1650 Skin Analysis and Massage ....................... 4
ESTH 1651 Clinic 1 for Estheticians ......................... 4
ESTH 1652 Clinic 2 for Estheticians ......................... 4
This course is a prerequisite to ESTH 1650
Total Semester Credits .......................... 24

Second Semester
COSM 1603 Preclinic Nail Care .......................... 3
COSM 1908 Clinic 1 for Nail Technicians ..................... 3
HLTH 1410 Medical Terminology .......................... 1
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .................. 4
MASS 1400 Introduction to Therapeutic Massage ....... 4
Goal 1: COMM 17XX (COMM 1720 Interpersonal Communication recommended)
Goal 3: BIOL 1760 Nutrition .................................. 3
Total Semester Credits .......................... 21

Third Semester
ESTH 1670 CIDESCO Exam Student Prep .................. 3
This course is offered only Summer Term
HLTH 1425 Clinical Applications in Kinesiology ...... 3
MASS 1421 Massage Spa Techniques ....................... 2
MASS 1422 Massage Clinical Techniques ................. 4
MASS 1480 Massage Therapy Practicum .................... 4
Goals 1-10: General Education Electives .................. 3
Total Semester Credits .......................... 19

Total Program Credits .......................... 64
Program Requirements Guide 2018 - 2019

Esthetician CERTIFICATE

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

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 dermatology and plastic surgeon’s offices and hospitals.

Licensing or certification exams are independent of graduation requirements.

Program Outcomes
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).
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.

Course Prerequisite Requirements
Some courses based on assessment results and program needs may need to complete additional course prerequisite requirements. Certain programs may need to complete additional prerequisites.

Assessment Results and Prerequisites:
Arithmetic:
- Score of 60+ on Reading Comprehension or grade of “C” or better in ENGL 0921
- Writing:
- Score of 60+ on Reading Comprehension or grade of “C” or better in ENGL 0921
- Total Program Credits 27

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
- Reading: Score of 60+ on Reading Comprehension or grade of “C” or better in READ 0721
- Writing: Score of 60+ on Reading Comprehension or grade of “C” or better in ENGL 0921
- Arithmetic: Score of 31+
- Total Program Credits 27

Program Faculty
Lyubov Babina  lyubov.babina@saintpaul.edu

Program Requirements
- Check off when completed
- Required Program Orientation
- All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.
- Course
- Chsn 1598 Body Systems & Diseases (online) 4
- Chsn 1599 Preclinic Introduction (online) 4
- ESTH 1645 Cosmetic Chemistry & Makeup Applications 4
- ESTH 1650 Skin Analysis & Massage 4
- ESTH 1651 Clinic 1 for Estheticians 4
- ESTH 1652 Clinic 2 for Estheticians 4
- Subtotal 24

General Education/MnTC Requirements
- Refer to the Minnesota Transfer Curriculum Course List for each Goal Area (General education requirements must be completed and passed before paperwork for licensure will be released).
- Goals 1-10 of the Minnesota Transfer Curriculum 3
- COMM 1720 Interpersonal Communication - recommended
- General Education Requirements 3
- Total Program Credits 27

Program Start Dates
Fall, Spring.
Summer – online CHSN 1598 & CHSN 1599 only

Course Sequence
The following sequence is required. Not all courses are offered during summer session.

1 Semester – Day Full-time
CHSN 1598 Body Systems & Diseases (online) 4
CHSN 1599 Preclinic Introduction (online) 4
ESTH 1645 Cosmetic Chemistry & Makeup Applications 4
CHSN 1599 Preclinic Introduction (online) 4
ESTH 1650 Skin Analysis & Massage 4
ESTH 1651 Clinic 1 for Estheticians 4
ESTH 1652 Clinic 2 for Estheticians 4
General Education Requirements 3

Cosmetology Student Handbook/Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook.
After you have read the handbook, you must print and sign Student Agreement Form, Hepatitis B Vaccination/Declaration Form, Property and Equipment Form, and Rollover Form and return them to your instructor on the first day of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester. Please direct questions to the assigned instructor of your first class.

Information is subject to change. This Program Requirements Guide is not a contract.
Esthetics Advanced Practice CERTIFICATE

Program Overview
Esthetician Advanced Practice includes work with skin care products, analysis of skin, skin exfoliation, facials, pre and post treatment skin care, and home product recommendation. The use of Advanced Skin Treatments, Pharmaceutical Grade Chemical Peels and Risk Management for this industry will be covered.

This certificate is designed for the licensed esthetician or licensed cosmetologist who will seek employment in a medical setting. Program enrollment requires current Minnesota Esthetics or Cosmetology license.

Career Opportunities
Licensed estheticians and licensed cosmetologists completing this advanced certificate are able to work in a plastic surgeon’s office, a dermatologist’s office, medical spas within 5 star resorts, hotels, and fitness centers.

Program Outcomes
1. Graduates will have knowledge and skills in esthetician services.
2. Graduates will have knowledge in cosmetic product ingredients.
3. Graduates will have knowledge and skills in Advanced Skin Treatments.
4. Graduates will have knowledge of Legal Risk Management.
5. Graduates will have knowledge of Pharmaceutical Grade Chemical Peels.
6. Graduates will have knowledge and skills for work and life roles.
7. Graduates will be prepared for employment in a medical setting.

Program Faculty
Lyubov Babina  lyubov.babina@saintpaul.edu
Julie Evans  julie.evans@saintpaul.edu

Textbook and Supply Costs
Students should expect to spend approximately $1900.00 for esthetics books and supplies (ESTH 1651, 1645 & 1650). Tuition, college fees and books for remaining courses are not included in this cost. Items can be purchased in the College Bookstore. Financial aid must have been completed.

Program Requirements
☐ Check off when completed
☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course  Cr
☐ ESTH 1710 Risk Management for Estheticians (online) .................... 2
☐ ESTH 1712 Advanced Exfoliation ................................. 4
☐ ESTH 1714 Advanced Skin Care Techniques .............. 5
☐ ESTH 1716 Advanced Clinic 1 for Estheticians .......... 4
☐ ESTH 1718 Advanced Clinic 2 for Estheticians .......... 4
Subtotal  .................................................. 19

Total Program Credits  .................. 19

Program Start Dates
Fall, Spring

Course Sequence
The following course sequence is recommended.

First Semester
ESTH 1710 Risk Management for Estheticians (online) .................... 2
ESTH 1712 Advanced Exfoliation ................................. 4
ESTH 1714 Advanced Skin Care Techniques .............. 5
ESTH 1716 Advanced Clinic 1 for Estheticians .......... 4
ESTH 1718 Advanced Clinic 2 for Estheticians .......... 4
Total Semester Credits  .................. 19

Total Program Credits  .................. 19

Current Minnesota Esthetics or Cosmetology License:
Students must bring a copy of their license on the first day of class. A copy will be added to the students’ permanent file.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910
Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Program Requirements Guide 2018 - 2019

Esthetics for Cosmetologist CERTIFICATE

Program Overview
This certificate will provide advanced education for the licensed cosmetologist who would like to expand their knowledge of skin care services. The certificate can be completed within one semester. Program enrollment requires current Minnesota Esthetics or Cosmetology license.

Career Opportunities
The licensed cosmetologist would now be able to seek employment in a setting specializing in skin care. Employment opportunities include: salons, spas and fitness centers.

Program Outcomes
1. Graduates will have accrued an additional 320 hours of education focused on skin care.
2. Graduates will have demonstrated knowledge of skin care services.
3. Graduates will have demonstrated practical application of skin care services.
4. Graduates will have knowledge of cosmetic product ingredients.
5. Graduates will be prepared for employment offering skin care services.

Program Faculty
Lyubov Babina  lyubov.babina@saintpaul.edu

Textbook and Supply Costs
Students should expect to spend approximately $1850.00 for books and supplies. This cost is beyond the cost of tuition and fees. Items can be purchased in the College Bookstore.

Program Requirements
☐ Check off when completed

☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course  Cr
☐ ESTH 1645 Cosmetic Chemistry & Makeup Applications ........................ 4
☐ ESTH 1650 Skin Analysis & Massage  .......................... 4
☐ ESTH 1651 Clinic 1 for Estheticians  ...................... 4

Total Program Credits  .................. 12

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended. Full-time students can complete the program in one semester.

First Semester
ESTH 1645 Cosmetic Chemistry & Makeup Applications .......................... 4
ESTH 1650 Skin Analysis & Massage .................................. 4
ESTH 1651 Clinic 1 for Estheticians ................................ 4

Total Program Credits  .................. 12

Current Minnesota Esthetics or Cosmetology License:
Students must bring a copy of their license on the first day of class. A copy will be added to the students' permanent file.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements Guide

CIDESCO Readiness CERTIFICATE

Program Overview
This certificate is designed for the licensed esthetician or licensed cosmetologist who wants to examine for the International CIDESCO certification. It provides the course work to support the CIDESCO exam prep class and CIDESCO examination. With CIDESCO certification, the licensed esthetician is able to complete a massage program, certify as a massage therapist, complete a nail technician program and obtain a nail technician license. CIDESCO is the world’s largest major International Beauty Association. Program enrollment requires a current Minnesota Cosmetology or Esthetics license.

Career Opportunities
The CIDESCO certification holder is cross trained and able to offer potential employers, skills in esthetics, massage therapy, body assessment and treatment and nail care. Cross trained therapists are able to work in spas, medical offices, fitness centers, 5 star resort spas, and on cruise ships.

Program Outcomes
1. Graduates will have knowledge and skills in esthetician services.
2. Graduates will have knowledge and skills needed for body assessment and body treatments.
3. Graduates will have knowledge and skills to assist clients with diet and exercise.
4. Graduates will have knowledge in cosmetic product ingredients.
5. Graduates will have knowledge and skills for work and life roles.
6. Graduates will have determined a topic for the CIDESCO special project.
7. Graduates will have prepared their CIDESCO special project for presentation during the exam.
8. Graduates will be prepared to take the International CIDESCO practical and written exam.

Program Faculty
Lyubov Babina  lyubov.babina@saintpaul.edu

Program Requirements
☐ Check off when completed
☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course
☐ COSM 1603 Preclinic Nail Care ................. 3
☐ ESTH 1645 Cosmetic Chemistry & Makeup Applications ......................... 4
☐ ESTH 1650 Skin Analysis & Massage .......... 4
☐ ESTH 1651 Clinic 1 for Estheticians ............. 4
☐ ESTH 1670 CIDESCO Exam Student Prep .... 3
☐ HLTH 1410 Medical Terminology .............. 1
☐ HLTH 1421 Anatomy & Physiology for the Somatic Practitioner ............. 4
☐ MASS 1400 Introduction to Therapeutic Massage .................. 4
Subtotal ........................................... 27

General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 3: Natural Sciences ......................... 3
☐ BIOL 1760 Nutrition – 3 cr
General Education Requirements ........... 3

Total Program Credits ......................... 30

Textbook and Supply Costs
Students should expect to spend approximately $1900.00 for esthetics books and supplies (ESTH 1645, 1650 & 1651). Tuition, college fees, and books required for remaining courses are not included in this cost. Items can be purchased in the College Bookstore. Financial aid must have been completed.

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended. Not all courses are offered during summer session.
Full-time students can complete the program in two semesters.

First Semester
ESTH 1645 Cosmetic Chemistry & Makeup Applications ......................... 4
ESTH 1650 Skin Analysis & Massage .......... 4
ESTH 1651 Clinic 1 for Estheticians ............. 4
Goal 3: BIOL 1760 Nutrition .................. 3
Total Semester Credits .......................... 15
Second Semester
COSM 1603 Preclinic Nail Care ................... 3
ESTH 1670 CIDESCO Exam Student Prep* ... 3
HLTH 1410 Medical Terminology .......... 1
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner ............. 4
MASS 1400 Introduction to Therapeutic Massage .................. 4
Total Semester Credits .......................... 15
Total Program Credits ......................... 30
*This course is only offered summer term.

Current Minnesota Esthetics or Cosmetology License:
Students must bring a copy of their license on the first day of class. A copy will be added to the students’ permanent file.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
This advanced certificate is designed for the licensed esthetician or licensed cosmetologist.
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-10 PCS & 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) certificate examination.

Program Faculty
Jennifer Anglin  jennifer.anglin@saintpaul.edu
Kelly Dale  kelly.dale@saintpaul.edu

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed
☐ All courses must be successfully completed with grade “C” or better.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>BTEC 1421 Business Information Applications</td>
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<td>BUSH 1480 Business Career Resources</td>
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<td>MEDS 1420 Health Information Foundations</td>
<td>3</td>
</tr>
<tr>
<td>MEDS 1470 Anatomy &amp; Physiology/Medical Office</td>
<td>3</td>
</tr>
<tr>
<td>MEDS 1480 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>MEDS 1560 Computerized Health Information</td>
<td>3</td>
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<td>MEDS 1562 Billing and Reimbursement</td>
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<tr>
<td>MEDS 1570 Human Disease</td>
<td>3</td>
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<tr>
<td>MEDS 2430 Pharmacology for the Medical Office</td>
<td>2</td>
</tr>
<tr>
<td>MEDS 2432 Alternative Health Record Systems</td>
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</tr>
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<td>MEDS 2434 Legal and Ethical Aspects of Health Information</td>
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<tr>
<td>MEDS 2440 Supervision of Health Information</td>
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</tr>
<tr>
<td>MEDS 2461 ICD-10-CM Coding</td>
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<tr>
<td>MEDS 2462 ICD-10-PCS Coding</td>
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<tr>
<td>MEDS 2470 CPT-4 Coding</td>
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<td>MEDS 2480 Advanced Coding</td>
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<tr>
<td>MEDS 2510 Quality Management and Health Statistics</td>
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<tr>
<td>MEDS 2590 HIT Internship/Capstone Project</td>
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General Education/MnTC Requirements

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<td>Refer to the Minnesota Transfer Curriculum Course List for each Goal Area</td>
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<tr>
<td>☐ Goal 1: Communication</td>
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<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
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<tr>
<td>COMM 17XX – 3 cr</td>
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<tr>
<td>☐ Goal 3 or Goal 4</td>
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<tr>
<td>Goal 3: Natural Sciences OR</td>
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<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
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<tr>
<td>☐ Goal 5: History, Social Science and Behavioral Sciences</td>
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<tr>
<td>☐ Goal 6: Humanities and Fine Arts</td>
<td></td>
</tr>
<tr>
<td>General Education Requirements</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Program Credits ............................. 64

The Health Information Technology AAS Degree Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (www.cahiim.org).

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745
Keyboarding Skills: Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400.
Computer Skills: Basic computer skills such as word processing, spreadsheets, and Internet usage or a grade of “C” or better in BTEC 1418.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Start Dates
Fall

Application Deadline
Priority application deadline is February 2, 2018.

Course Sequence
The course sequence listed on the back of this guide is recommended for a full-time student. Not all courses are offered each semester.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Health Information Technology AAS
BA  Health Care Administration
Concordia University, St. Paul
BA  Individualized Studies
Metropolitan State University
BS  Healthcare and Human Service Management
Saint Mary's University-Twin Cities Campus
BS  Health Information Management
College of St. Scholastica
BS  Health Information Management
Herzing University

See back of this guide for Course Sequence

Program Requirements Guide 2018 - 2019

Information is subject to change.
This Program Requirements Guide is not a contract.
## Course Sequence

The course sequence below is for a full-time student. Students taking fewer courses must meet with faculty advisor to develop a program schedule before registration.

All classes must be successfully completed with grade of “C” or better.

**First Semester (Year 1)**
- MEDS 1420 Health Information Foundations ........ 3
- MEDS 1470 Anatomy & Physiology/Medical Office ... 3
- MEDS 1480 Medical Terminology  ................ 3
- Goal 1: ENGL 1711 Composition 1  ............... 3
- Goal 1: COMM 17XX  .......................... 4

**Second Semester (Year 1)**
- MEDS 1570 Human Disease  ..................... 3
- MEDS 2430 Pharmacology for the Medical Office .... 2
- MEDS 2461 ICD-10-CM Coding .................. 3
- MEDS 2462 ICD-10-PCS Coding  ................. 4
- MEDS 2470 CPT-4 Coding  ...................... 3

**Third Semester (Year 2)**
- MEDS 1560 Computerized Health Info ............. 3
- MEDS 1562 Billing and Reimbursement ............ 2
- MEDS 2432 Alternative Health Record Systems ... 2
- MEDS 2434 Legal Aspects of Health Information ... 2
- MEDS 2480 Advanced Coding  ..................... 3
- Goal 3: Natural Sciences  OR Goal 4: Mathematical/Logical Reasoning 3

**Fourth Semester (Year 2)**
- BUSN 1480 Business Career Resources  ............ 1
- BTEC 1421 Bus Info Apps 1  ..................... 3
- MEDS 2440 Supervision of Health Information .... 2
- MEDS 2510 Quality Management and Health Statistics ............................................ 3
- MEDS 2590 HIT Internship/Capstone Project ...... 3
- Goal 5: History, Social Sciences, and Behavioral Sciences ........................................... 3
- Goal 6: Humanities and Fine Arts  ................ 3

**Total Semester Credits** ............................. 18

**Total Program Credits** .............................. 64

## Application Process

After completion of the Saint Paul College application and admission process, students interested in the Health Information Technology Degree must submit a completed Application to Health Information Technology Degree form and meet the following criteria:

- Completion of the following required General Education courses:
  - Goal 1: ENGL 1711 Composition 1
  - Goal 1: COMM 17XX

  Complete the following required courses with a “C” or better:
  - MEDS 1420 Health Information Foundations
  - MEDS 1470 Anatomy/Physiology/Medical Office
  - MEDS 1480 Medical Terminology

**Admission into the Program**

Applying by the application deadline (listed on the application) does not guarantee admission to the Health Information Technology Program.

Being admitted to Saint Paul College does not imply admission into the Health Information Technology Program.

The Health Information Technology Admissions Committee will review each application on the basis of overall academic ability, GPA of college level courses, assessment scores, and meeting the above criteria. Notification of acceptance into the Health Information Technology Program will be sent by mail 6-weeks after the application deadline stated on the Health Information Technology Program Application form.

Students admitted into the Health Information Technology Program must meet with program faculty advisor to complete documentation to enter the program.
1. Graduates will apply policies and procedures related to industry practices and procedures regarding complex electronic health record systems.
2. Graduates will use specialized software in the completion of health informatics and information management processes that include, working with practice management systems, data abstraction and analytics, record tracking, release of information, registries, and quality improvement initiatives.
3. Graduates will apply knowledge and skill set to manage and maintain healthcare related information systems.
4. Graduates will apply policies and procedures to comply with the changing regulations among various information systems within healthcare.
5. Graduates will possess a knowledge base, which will allow them to find employment in the healthcare industry.

Program Faculty
Jennifer Anglin  jennifer.anglin@saintpaul.edu

Program Requirements
☐ Check off when completed
☐ All classes must be successfully completed with grade “C” or better.

Course
☐ CSCI 1410 Computer Science and Information Systems ............... 4
☐ CSCI 1440 Networking Fundamentals ........................................ 4
☐ CSCI 1523 Introduction to Computing and Programming Concepts ........ 4
☐ CSCI 1550 Database Management Fundamentals ....................... 4
☐ CSCI 2410 Management Information Systems ......................... 3
☐ CSCI 2570 Machine Architecture and Organization .................. 4
☐ 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 2432 Alternative Health Record Systems ...................... 2
☐ MEDS 2434 Legal and Ethical Aspects of Health Information ........ 2
☐ MEDS 2440 Supervision of Health Information ....................... 2
☐ MEDS 2510 Quality Management and Health Statistics ............ 3

Subtotal ................................ 44

General Education/MnTC Requirements .......................... Cr
☐ Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ................................................... 7
  ENGL 1711 Composition 1 – 4 cr
  COMM 17XX – 3 cr
☐ Goal 4: Mathematical/Logical Reasoning .................... 3
  MATH 1730 College Algebra (or higher) – 3 cr
☐ Goal 5: History, Social Science and Behavioral Sciences ........ 3
☐ Goal 6: Humanities and Fine Arts ................................. 3

General Education Requirements .......................... 16

Total Program Credits .......................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920
Keyboarding Skills: Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400.

Program Start Dates
Fall, Spring, Summer-limited course offerings

Course Sequence
The Course Sequence listed on the back of this guide is recommended for full-time and part-time students. Students should consult with the program advisor to develop an appropriate educational plan.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/transfer.

Healthcare Informatics AAS
BA Health Care Administration Concordia University, St. Paul
BS Individualized Studies Metropolitan State University
BS Healthcare and Human Service Management Saint Mary’s University-Twin Cities Campus

See back of this guide for Course Sequence

Information is subject to change. This Program Requirements Guide is not a contract.

337A (7193)
# Course Sequence
## for Full-Time Schedule

The following sequence is recommended for full-time students. Students should consult with the program advisor to develop an appropriate educational plan.

All classes must be successfully completed with a grade of "C" or better.

### First Semester (Year 1)
- CSCI 1410 Computer Science and Information Systems .......................... 4
- MEDS 1420 Health Information Foundations .................................... 3
- MEDS 1470 Anatomy and Physiology of the Medical Office ............... 3
- MEDS 1480 Medical Terminology .................................................. 3
- Goal 1: COMM 17XX .................................................................. 3

**Total Semester Credits** ......................................................... 16

### Second Semester (Year 1)
- CSCI 1523 Introduction to Computing and Programming Concepts ........... 4
- CSCI 1550 Database Management Fundamentals .................................. 4
- MEDS 1420 Health Information Foundations .................................... 3
- Goal 1: ENGL 1711 Composition 1 ............................................. 4

**Total Semester Credits** ......................................................... 15

### Third Semester (Year 2)
- CSCI 2410 Management Information Systems ..................................... 3
- CSCI 2570 Machine Architecture and Organization ............................ 4
- MEDS 2432 Alternative Health Record Systems .................................. 2
- MEDS 2434 Legal and Ethical Aspects of Health Information ................. 2
- Goal 4: MATH 1730 College Algebra or higher .................................. 3

**Total Semester Credits** ......................................................... 14

### Fourth Semester (Year 2)
- CSCI 1440 Networking Fundamentals ............................................. 4
- MEDS 2430 Supervision of Health Information .................................. 2
- MEDS 2510 Quality Management and Health Statistics ....................... 3
- Goal 5: History, Social Sciences, and Behavioral Sciences .................. 3
- Goal 6: Humanities and Fine Arts ............................................... 3

**Total Semester Credits** ......................................................... 15

**Total Program Credits** .......................................................... 60

---

# Course Sequence
## for Part-Time Schedule

The following sequence is recommended for part-time students. Students should consult with the program advisor to develop an appropriate educational plan.

All classes must be successfully completed with a grade of "C" or better.

### First Semester (Year 1)
- CSCI 1410 Computer Science and Information Systems .......................... 4
- MEDS 1470 Anatomy and Physiology of the Medical Office ............... 3
- MEDS 1480 Medical Terminology .................................................. 3
- Goal 1: COMM 17XX .................................................................. 3

**Total Semester Credits** ......................................................... 10

### Second Semester (Year 1)
- CSCI 1523 Introduction to Computing and Programming Concepts ........... 4
- MEDS 1420 Health Information Foundations .................................... 3
- Goal 1: ENGL 1711 Composition 1 ............................................. 4

**Total Semester Credits** ......................................................... 10

### Third Semester (Year 2)
- MEDS 1560 Computerized Health Information ................................... 3
- MEDS 2432 Alternative Health Record Systems .................................. 2
- Goal 1: ENGL 1711 Composition 1 ............................................. 4

**Total Semester Credits** ......................................................... 9

### Fourth Semester (Year 2)
- CSCI 1550 Database Management Fundamentals .................................. 4
- MEDS 2440 Supervision of Health Information .................................. 2
- Goal 4: MATH 1730 College Algebra or higher .................................. 3

**Total Semester Credits** ......................................................... 9

### Fifth Semester (Year 3)
- CSCI 1440 Networking Fundamentals ............................................. 4
- MEDS 2510 Quality Management and Health Statistics ....................... 3
- Goal 5: History, Social Sciences, and Behavioral Sciences .................. 3

**Total Semester Credits** ......................................................... 12

### Sixth Semester (Year 3)
- CSCI 1440 Networking Fundamentals ............................................. 4
- MEDS 2510 Quality Management and Health Statistics ....................... 3
- Goal 6: Humanities and Fine Arts ............................................... 3

**Total Semester Credits** ......................................................... 10

**Total Program Credits** .......................................................... 60
Medical 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, maintenance, 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, scheduling patient appointments, scanning documents into digital health records, releasing patient information, collecting or abstracting medical data, understanding reimbursement methodologies, meeting physician documentation needs, and other related duties.

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 extended periods, assisting the patient documentation needs, and working on an independent basis.

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.

The Medical Office Professional may work in a 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.

According to the Bureau of Labor Statistics, Medical Secretarial Occupations are anticipated to increase by +/- 20.5% between 2014 and 2024 (www.bls.gov).

Program Outcomes

1. Graduates will possess the knowledge and skills needed for employment as a Medical Office Professional.
2. Graduates will be proficient in the use of computer software applications, including advanced spreadsheet and database knowledge.
3. Graduates will possess an understanding of medical terminology, human disease, pharmacology, anatomy and physiology, patient confidentiality including HIPAA privacy rules, and will be able to professionally interact with healthcare providers and patients.
4. Graduates will transcribe/edit medical reports and related office correspondence.
5. Graduates of Medical Office Professional program are eligible to apply to write the Association for Healthcare Documentation Integrity, Registered Healthcare Documentation Specialist (RHDS) examination.
# Medical Office Professional AAS DEGREE (continued)

## Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

All classes must be successfully completed with a grade of “C” or better.

### First Semester (Year 1)
- BTEC 1421 Business Information Applications 1 .......................... 3
- BUSN 1410 Introduction to Business ....................................... 3
- MEDS 1420 Health Information Foundations ............................. 3
- MEDS 1470 Anatomy & Physiology/Medical Office .................... 3
- MEDS 1480 Medical Terminology ............................................ 3

Total Semester Credits .................................................. 15

### Second Semester (Year 1)
- BTEC 1423 Business Information Applications 2 ....................... 4
- MEDS 1551 Medical Formatting/Transcription 1 ........................ 3
- MEDS 1552 Transcription And Documentation II ........................ 3
- MEDS 1570 Human Disease .................................................. 3
- Goal 1: ENGL 1711 Composition 1 ......................................... 4

Total Semester Credits .................................................. 17

### Third Semester (Year 2)
- BTEC 2410 Business Procedures ............................................ 4
- MEDS 1553 Advanced Medical Documentation .......................... 3
- Goal 1: COMM 17XX ......................................................... 3
- Goal 3: Natural Sciences OR
  - Goal 4: Mathematical/Logical Reasoning ................................ 3
- Goal 6: Humanities and Fine Arts ......................................... 3

Total Semester Credits .................................................. 16

### Fourth Semester (Year 2)
- BUSN 1480 Business Career Resources .................................... 1
- MEDS 1560 Computerized Health Information .......................... 3
- MEDS 2430 Pharmacology for the Medical Office ....................... 2
- Goal 5: History, Social Sciences and Behavioral Sciences  .......... 3
- Goals 1-10: Minnesota Transfer Curriculum ............................ 3

Total Semester Credits .................................................. 12

Total Program Credits .................................................. 60
Program Overview
Graduates of the Medical Coding Diploma program are proficient in coding diagnoses and procedures, abstracting medical data, meeting physician documentation needs, and other related duties. Coders work closely with billing personnel at healthcare facilities, and proficiency in billing and reimbursement procedures is included in the Medical Coding Diploma program. Courses taken to meet requirements for the Medical Coding Diploma also prepare a student to continue into the Health Information Technology AAS degree program.

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, abstracting information from patient health records, assisting billers and other reimbursement personnel, and using critical thinking skills.

Career Opportunities
Graduates of the Medical Coding Diploma program may work in a 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. Medical coding may be done at home through use of a secure Internet connection. Working from one’s home is generally for employees who have completed training in an office setting for a period of time.

According to the Bureau of Labor Statistics, the Job Outlook for Medical Record and Health Information Technology careers is projected to increase 15% between 2014 and 2024, which is much faster than average (www.bls.gov).

Program Outcomes
1. Graduates will possess the knowledge and skills for employment as a medical coding specialist.
2. Graduates will be proficient in the use of computer software applications to assist in assigning diagnoses and procedures.
3. Graduates will possess a knowledge of medical terminology, anatomy and physiology, patient confidentiality, ethical standards of coding, and electronic health record applications to perform in a healthcare environment.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
- **Reading:** Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- **Writing:** Score of 52+ on Writing or grade of “C” or better in ENGL 0922
- **Arithmetic:** Score of 78+ on Arithmetic or grade of “C” or better in MATH 0745
- **Keyboarding Skills:** Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400

Program Requirements Guide 2018 - 2019

<table>
<thead>
<tr>
<th>Program Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelly Dale</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Part-time/Full-time Options</th>
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</thead>
<tbody>
<tr>
<td>This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.</td>
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<table>
<thead>
<tr>
<th>Program Requirements</th>
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<tr>
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<td>☐ All classes must be successfully completed with grade “C” or better.</td>
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<table>
<thead>
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<td>☑ MEDS 1420 Health Information Foundations ................ 3</td>
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<td>☑ MEDS 1470 Anatomy &amp; Physiology/ Medical Office .............. 3</td>
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<tr>
<td>☑ MEDS 1480 Medical Terminology .................................. 3</td>
</tr>
<tr>
<td>☑ MEDS 1560 Computerized Health Information ................... 3</td>
</tr>
<tr>
<td>☑ MEDS 1562 Billing and Reimbursement .......................... 2</td>
</tr>
<tr>
<td>☑ MEDS 1570 Human Disease .......................................... 3</td>
</tr>
<tr>
<td>☑ MEDS 2430 Pharmacology for the Medical Office ............... 2</td>
</tr>
<tr>
<td>☑ MEDS 2434 Legal and Ethical Aspects of Health Information .... 2</td>
</tr>
<tr>
<td>☑ MEDS 2461 ICD-10-CM Coding ...................................... 3</td>
</tr>
<tr>
<td>☑ MEDS 2462 ICD-10-PCS Coding .................................... 4</td>
</tr>
<tr>
<td>☑ MEDS 2470 CPT-4 Coding ........................................... 3</td>
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<tr>
<td>☑ MEDS 2480 Advanced Coding ......................................... 3</td>
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<td>☑ MEDS 2594 Medical Coding Capstone ............................. 3</td>
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<table>
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<th>General Education/MnTC Requirements</th>
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<tr>
<td>☑ Goal 2: Mathematics .................. 3</td>
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<tr>
<td>☑ General Education Requirements ....... 3</td>
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| Total Program Credits: .................. 40 |

<table>
<thead>
<tr>
<th>Program Start Dates</th>
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</thead>
<tbody>
<tr>
<td>Fall, Spring, Summer-limited course offerings</td>
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</table>

<table>
<thead>
<tr>
<th>Course Sequence</th>
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</thead>
<tbody>
<tr>
<td>The following sequence is recommended; however, this sequence is not required. Not all courses are offered each semester.</td>
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</table>

<table>
<thead>
<tr>
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<tr>
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<td>MADS 1480 Medical Terminology .................................. 3</td>
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<tr>
<td>Goal 1: COMM 17XX ................................................. 3</td>
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<td>Total Semester Credits ........................................... 12</td>
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</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>MADS 1562 Billing and Reimbursement .......................... 2</td>
</tr>
<tr>
<td>MADS 1570 Human Disease .......................................... 3</td>
</tr>
<tr>
<td>MADS 2461 ICD-10-PCS Coding .................................... 4</td>
</tr>
<tr>
<td>MADS 2462 ICD-10-CM Coding ...................................... 3</td>
</tr>
<tr>
<td>MADS 2470 CPT-4 Coding ........................................... 3</td>
</tr>
<tr>
<td>Total Semester Credits ............................................. 15</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>MADS 1560 Computerized Health Information .................... 3</td>
</tr>
<tr>
<td>MADS 2430 Pharmacology for the Medical Office .............. 2</td>
</tr>
<tr>
<td>MADS 2443 Legal Aspects of Health Information ............... 2</td>
</tr>
<tr>
<td>MADS 2480 Advanced Coding ......................................... 3</td>
</tr>
<tr>
<td>MADS 2594 Medical Coding Capstone ............................. 3</td>
</tr>
<tr>
<td>Total Semester Credits ............................................. 13</td>
</tr>
</tbody>
</table>

| Total Program Credits: .................. 40 |

| Information is subject to change. |
| This Program Requirements Guide is not a contract. |

330D (7189)
Medical Office CERTIFICATE

Program Overview
Graduates of the Medical Office certificate assist with scanning information into electronic health records, releasing patient information, meeting physician documentation needs, scheduling patients, and 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, assisting with patient concerns, and working with computer programs.

Career Opportunities
Graduates of the Medical Office Certificate program may work in physician offices, surgery centers, specialty clinics, hospital, insurance companies, government agencies, research foundations, long-term care facilities, dental offices, consulting firms, rehabilitation centers or other health care facilities. Other places of employment include working for vendors of computer software.

According to the Bureau of Labor Statistics, Medical Secretarial Occupations are anticipated to increase by +/- 20.5% between 2014 and 2024 (www.bls.gov).

Program Outcomes
1. Graduates will possess the knowledge and skills for employment as a Medical Office worker.
2. Graduates will be proficient in the use of computer software applications, including patient scheduling and electronic health record applications.
3. Graduates will possess a knowledge of medical terminology, anatomy and physiology, and confidentiality of patient health information to perform in a healthcare environment.

Program Faculty
Jennifer Anglin  jennifer.anglin@saintpaul.edu
Kelly Dale  kelly.dale@saintpaul.edu

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed
☐ All classes must be successfully completed with grade “C” or better.

Course Cr
☐ BTEC 1421 Business Information Applications 1 ........ 3
☐ BTEC 1530 Communication Technology ................. 4
☐ BUSN 1480 Business 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

Total Program Credits ........................................ 20

Program Start Dates
Fall, Spring, Summer-limited course offerings

Course Sequence
The following sequence is recommended; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

First Semester
BTEC 1421 Business Information Applications 1 ........ 3
MEDS 1420 Health Information Foundations ............ 3
MEDS 1470 Anatomy & Physiology/Medical Office .... 3
MEDS 1480 Medical Terminology ......................... 3
Total Semester Credits ........................................ 12

Second Semester
BTEC 1530 Communication Technology (spring only) .......... 4
BUSN 1480 Business Career Resources ..................... 1
MEDS 1560 Computerized Health Information .......... 3
Total Semester Credits ......................................... 8
Total Program Credits ......................................... 20

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements prior to beginning the program:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745
Keyboarding Skills: Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400.
Computer Skills: Basic computer skills such as word processing, spreadsheets, and Internet usage or a grade of “C” or better in BTEC 1418.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.

329C (7188)
Program Overview
Graduates of a certificate program in healthcare documentation are proficient in transcribing medical documents, creating and processing correspondence, assisting with release of information, meeting medical provider documentation needs, and other duties. Courses from the certificate are applicable toward the Medical Office Professional AAS degree.

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 listening to dictated material for an extended period, editing documents created through the use of voice recognition software, and possess knowledge of patient confidentiality regarding health information.

Career Opportunities
Healthcare documentation specialists may work in a physician’s office, surgery center, specialty clinic, hospital, insurance company, government agency, research foundation, long-term care facility, dental office, consulting firm, rehabilitation center or other health care facility.

Program Outcomes
1. Graduates will possess the knowledge and skills for employment as a healthcare documentation specialist.
2. Graduates will be proficient in the use of computer software applications to create and edit medical documentation.
3. Graduates will transcribe reports and documents for a variety of healthcare specialties using knowledge of pharmacology, pathophysiology, laboratory and radiology testing.
4. Graduates will use knowledge of medical terminology, anatomy and physiology, and HIPAA guidelines on patient confidentiality to produce medical documentation in a healthcare environment.
5. Graduates of the Healthcare Documentation Specialist program are eligible to apply to write the Association for Healthcare Documentation Integrity, Registered Healthcare Documentation Specialist (RHDS) examination.

Program Faculty
Jennifer Anglin  jennifer.anglin@saintpaul.edu

Part-time/Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed
☐ All classes must be successfully completed with a grade of “C” or better.

Course Cr
☐ BTEC 1421 Business Information Applications 1 . . . 3
☐ BUSN 1480 Business 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 Transcription And Documentation II .... 3
☐ MEDS 1553 Advanced Medical Documentation ....... 3
☐ MEDS 1560 Computerized Health Information ....... 3
☐ MEDS 1570 Human Disease ................... 3
☐ MEDS 2430 Pharmacology for the Medical Office ...... 2
☐ BUSN 1480 Business Career Resources ............ 1
☐ MEDS 1553 Advanced Medical Documentation ....... 3
☐ MEDS 1560 Computerized Health Information ....... 3
☐ MEDS 2430 Pharmacology for the Medical Office ...... 2

Total Program Credits .......................... 30

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745
Keyboarding Skills: Minimum of 40 WPM with 3 errors or less or a grade of “C” or better in BTEC 1400

Computer Skills: Basic computer skills such as word processing, spreadsheets, and Internet usage or a grade of “C” or better in BTEC 1418.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

This Program Requirements Guide is not a contract.
## Health Sciences Broad Field AS DEGREE

### Program Overview
The Health Sciences Broad Field AS Degree is designed to provide general education courses for students interested in health sciences, but have not yet decided which specific health care field they intend to pursue.

### Career Opportunities
Students enrolled in the Health Sciences Broad Field AS degree will acquire all of the skills and knowledge needed to provide a smooth transition into baccalaureate health-related programs such as:

- Community Health
- Nursing
- Dental Hygiene
- Social Work
- Health Education
- Food and Nutrition
- Exercise Science

### Program Outcomes
1. Utilize the English language effectively to read, write, speak, and listen critically.
2. Develop the capacity to identify, discuss, and reflect upon social and behavioral issues.
3. Demonstrate comprehension of human and biological systems.
4. Enhance mathematical and logical thinking techniques.
5. Improve their awareness and understanding of health, wellness, and liberal arts.

### Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

### Health Sciences Broad Field AS

| BS | Biology, Health, Exercise and Rehabilitative Sciences, Movement Sciences, Exercise Science, Health Promotion, Community Health, Nursing (limited) | Winona State University |
| BS | Communication Disorders, Foods and Nutrition, Dental Hygiene (limited), Therapeutic Recreation, Dietetics, Nursing (limited), Corrections, Psychology, Health Science, Social Work | Minnesota State University, Mankato |
| BS | Community Health, Exercise Science, Nursing (limited) | Bemidji State University |
| BS | Exercise Science | Southwest Minnesota State University |
| BS | Exercise Science, Health Teacher Education | Minnesota State University-Moorhead |
| BS | Human Biology | Northwestern Health Sciences University |
| BSN | Nursing (limited) | Metropolitan State University |

### Program Requirements

**Check off when completed**

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>□ BIOL 1740 General Biology 1: The Living Cell</td>
<td>. 5</td>
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<tr>
<td>□ BIOL 1760 Nutrition</td>
<td>. 3</td>
</tr>
<tr>
<td>□ BIOL 2721 Human Anatomy and Physiology 1</td>
<td>. 4</td>
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<tr>
<td>□ BIOL 2722 Human Anatomy and Physiology 2</td>
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<tr>
<td>□ BIOL 2750 General Microbiology</td>
<td>. 4</td>
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<tr>
<td>□ CHEM 1711 Principles of Chemistry 1</td>
<td>. 4</td>
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<tr>
<td>□ COMM 1720 Interpersonal Communication</td>
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<tr>
<td>□ ENGL 1711 Composition 1</td>
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<tr>
<td>□ MATH 1730 College Algebra</td>
<td>. 3</td>
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<tr>
<td>□ MATH 1740 Introduction to Statistics</td>
<td>. 4</td>
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<tr>
<td>□ PHIL 1722 Health Care Ethics</td>
<td>. 3</td>
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<tr>
<td>□ PSYC 1710 General Psychology</td>
<td>. 4</td>
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<tr>
<td>□ PSYC 1720 Psychology throughout the Lifespan</td>
<td>. 3</td>
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<tr>
<td>□ SOCI 1710 Introduction to Sociology</td>
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</table>
| **Subtotal**                                                           | **52**

**General Education/MnTC Requirements**

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>□ Liberal Arts or Science Electives (MnTC only)</td>
<td>. 8</td>
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</tbody>
</table>

Select a minimum of 8 additional credits from Goals 1-10 of the Minnesota Transfer Curriculum.

**General Education Requirements**

**Total Program Credits**

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### Program Start Dates
Fall, Spring, Summer

### Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required.

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<td>□ ENGL 1711 Composition 1</td>
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<td>□ MATH 1730 College Algebra</td>
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**Total Semester Credits**

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**Second Semester**

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<td>□ COMM 1720 Interpersonal Communication</td>
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<td>□ PHIL 1722 Healthcare Ethics</td>
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**Total Semester Credits**

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**Third Semester**

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<th>Course</th>
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<tbody>
<tr>
<td>□ MATH 1740 Introduction to Statistics</td>
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<td>□ PSYC 1710 General Psychology</td>
<td>. 4</td>
</tr>
<tr>
<td>□ SOCI 1710 Introduction to Sociology</td>
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**Total Semester Credits**

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**Fourth Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<td>□ PSYC 1720 Psychology throughout the Lifespan</td>
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</tr>
<tr>
<td>□ SOCI 1710 Introduction to Sociology</td>
<td>. 4</td>
</tr>
</tbody>
</table>

**Total Semester Credits**

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**Total Program Credits**

60

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### Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ or a grade of “C” or better in READ 0722

**Writing:** Score of 78+ or a grade of “C” or better in ENGL 0922

**College Level Mathematics:** Score of 50+ or grade of “C” or better in MATH 0920

**Assessment Results and Prerequisites:**

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, BIOL, and CHEM courses have additional prerequisites.

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**Information is subject to change. This Program Requirements Guide is not a contract.**

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3415 (7194)
Program Requirements Guide

Medical Laboratory Technician AAS DEGREE

Program Overview

The Medical Laboratory Technician program is a combination of classroom, laboratory, and applied experiences that will provide students with training needed for employment in Medical Laboratory careers. Following the didactic coursework, which includes hands-on training in campus student laboratories, students are assigned to a clinical affiliate for the clinical experience. This required portion of the curriculum provides realistic experiences and an opportunity for further learning and demonstration of technical and affective skill competency. The Associate of Applied Science Degree earned prepares graduates to enter employment as a Medical Laboratory Technician or continue their education to earn a baccalaureate degree as a Medical Laboratory Scientist. Medical Laboratory Technicians collect blood, examine and analyze body fluids, tissues and cells. They look for bacteria, parasites, or other microorganisms; count cells and look for abnormal cells; 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. 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. They then analyze the results and relay them to physicians. Qualifications include an interest and aptitude in science and mathematics, accuracy and attention to detail, strong communication skills, moral and intellectual integrity, self-discipline, an ability to multitask and prioritize workload, and desire to contribute to quality patient care. Laboratory workers must have the cognitive and technical skills to perform and master a variety of tasks.

Career Opportunities

Laboratory tests are of vital importance to modern medical practice. The need for clinical laboratory workers is expected to remain strong. Increased job openings are expected due to the increased need for laboratory testing in an aging population and also due to vacancies created through retirements of current employees. Employment of medical laboratory professionals is projected to grow 16% from 2014 to 2024 (according to the U.S. Bureau of Labor Statistics). Medical Laboratory 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, computers, and automated laboratory 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 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 patient safety and the diagnosis and treatment of disease processes in the following areas: clinical chemistry, hematology and hemostasis, urinalysis, microbiology, immunohematology (transfusion medicine) and immunology.
6. The graduate will be prepared to take the examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).
7. The graduate will demonstrate preparedness for entry level employment as a Medical Laboratory Technician, including both technical expertise and professionalism.

National Certification Exam

Upon completion of the program, the student is eligible to take an examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).

Textbook and Supply Costs

Students should expect to spend approximately $2,400.00, beyond the cost of tuition and fees, for books, supplies, certification exam, and liability insurance.

Part-time and Full-time Options

Many students attend part-time, which usually increases the program length to 3 years. Part-time students take required general education courses prior to enrolling in the MDLT courses. Once admitted to the MLT Major, students must take all of the required MDLT courses in sequence as prescribed. Students completing the required General Education, developmental or ESL courses and who have not been officially admitted to the MLT program are considered Pre-Medical Laboratory Technician.

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Medical Laboratory Technician AAS

BA Health Care Administration
Concordia University, St. Paul

BA Individualized Studies
Metropolitan State University

BS Clinical Laboratory Science
Winona State University

BS Healthcare and Human Service Management
Saint Mary’s University-Twin Cities Campus

BS Medical Laboratory Science
University of North Dakota

Application Process

After completing the Saint Paul College application and admission process, students interested in the Medical Laboratory Technician program must submit to Enrollment Services a completed Application to the Medical Laboratory Technician Program form. This form is available on the Medical Laboratory Technician Web page (saintpaul.edu/MLT) beginning on the first day of fall semester through the last day in January. This application window is for the subsequent all semester start in the MLT Major. Applicants must meet the following criteria to submit the form:

- Documented readiness for, or completion of, the following required General Education Courses: ENGL 1711 English Composition and CHEM 1711 Principles of Chemistry 1
- Achieve a cumulative GPA of 2.8 or better with a minimum grade of “C” in all college level courses.

See back of this guide for Program Requirements and Course Sequence

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ on Reading Comprehension or grade of “C” or better in READ 0722

Writing: Score of 78+ on Writing or grade of “C” or better in ENGL 0922

College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.

061A 622A (7044)
Program Requirements

- Check off when completed
- All classes must be successfully completed with a grade of "C" or better.

MDLT Core Courses

MDLT Core Courses can only be taken by students who have been officially accepted and admitted into the Medical Laboratory Technician Program.

- MDLT 1410 Medical Terminology ........... 1
- MDLT 1400 Orientation ...................... 1
- MDLT 1410 Laboratory Techniques .......... 3
- MDLT 1421 Hematology 1 .................. 2
- MDLT 1422 Hematology 2 .................. 2
- MDLT 1430 Urinalysis/Blood Fluids ...... 3
- MDLT 1441 Clinical Chemistry 1 .......... 2
- MDLT 1442 Clinical Chemistry 2 .......... 4
- MDLT 1446 Phlebotomy .................... 1
- MDLT 1510 Immunology .................. 2
- MDLT 2410 Immunohematology .......... 3
- MDLT 2420 Clinical Microbiology .......... 4
- MDLT 2430 Clinical Practice Orientation .... 1
- MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis ..... 2
- MDLT 2591 Clinical Practice .......... 9
- MDLT 2593 Comprehensive Examinations .... 1
- MDLT Core Credits Subtotal ............. 43

General Education/MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area.

- Goal 1: Communication ..................... 7
- ENGL 1711 Composition 1 – 4 cr
- COMM 17XX – 3 cr
- Goal 3: Natural Sciences ................. 16
- 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
- Goal 5: History, Social Science and Behavioral Sciences .................. 3
- PSYC 1710 General Psychology OR
- SOCI 1720 Social Problems (recommended)
- Goal 6: Humanities and Fine Arts .......... 3
- PHIL 1722 Health Care Ethics (recommended)

General Education Requirements ......... 29

Total Program Credits ...................... 72

Recommended Supplemental Courses

The following optional Learning Lab courses reinforce the basic skills required for attaining proficiency in performing medical laboratory procedures:

- 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

Course Sequence

The following Course Sequence is required for full-time students. MDLT Core Courses can only be taken by students who have been officially accepted and admitted into the Medical Laboratory Technician program and who have attended the Mandatory Medical Lab Technician Orientation.

Accepted students progress through the major as a cohort and must take MDLT courses in sequence in the semester indicated. Non-MDLT coursework can be taken prior to acceptance into the MDL Major or during the semester indicated in the presented course sequence.

Students should consult with the program advisor to develop an appropriate educational plan. HLTH 1410 Medical Terminology must be completed by the end of the first semester in the MDL Major.

Not all courses are offered each semester. MDLT coursework can be started only Fall semester.

First Semester

- HLTH 1410 Medical Terminology .......... 1
- MDLT 1400 Orientation ...................... 1
- MDLT 1410 Laboratory Techniques .......... 3
- MDLT 1421 Hematology 1 .................. 2
- MDLT 1430 Urinalysis/Blood Fluids ...... 3
- MDLT 1441 Clinical Chemistry 1 .......... 2
- MDLT 1446 Phlebotomy .................... 1
- Goal 3: CHEM 1711 Principles of Chemistry 1 .... 4
- Goal 3: BIOL 1730 Human Body Systems .......... 3

Total Semester Credits ..................... 20

Recommended Supplemental Courses First Semester:
- MDLT 1451 Learning Lab 1 (Optional) .......... 1
- MDLT 1452 Learning Lab 2 (Optional) .......... 1

Second Semester

- MDLT 1422 Hematology 2 .................. 4
- MDLT 1442 Clinical Chemistry 2 .......... 4
- MDLT 1510 Immunology .................. 2
- Goal 3: CHEM 1712 Principles of Chemistry 2 .... 4
- Goal 3: BIOL 1740 General Biology 1 .......... 5

Total Semester Credits ..................... 19

Recommended Supplemental Courses Second Semester:
- MDLT 1453 Learning Lab 3 (Optional) .......... 1
- MDLT 1454 Learning Lab 4 (Optional) .......... 1

Third Semester

- Goal 1: COMM 17XX ......................... 3
- Goal 1: ENGL 1711 Composition 1 .......... 4

Total Summer Term Credits ............... 7

Fourth Semester (Year 2)

- MDLT 2410 Immunohematology .......... 3
- MDLT 2420 Clinical Microbiology .......... 4
- MDLT 2430 Clinical Practice Orientation .... 1
- MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis ..... 2
- Goal 5: PSYC 1710 or SOCI 1720 recommended .... 3
- Goal 6: PHIL 1722 Health Care Ethics recommended .... 3

Total Semester Credits ..................... 16

Recommended Supplemental Courses Fourth Semester:
- MDLT 2455 Learning Lab 5 (Optional) .......... 1
- MDLT 2456 Learning Lab 6 (Optional) .......... 1

Fifth Semester (Year 2)

- MDLT 2591 Clinical Practice ............... 9

Total Semester Credits ..................... 9

Sixth Semester

- MDLT 2593 Comprehensive Examinations .... 1

Total Summer Term Credits ............... 1

Total Program Credits ..................... 72

Program Start Dates

Fall

Program Faculty

Michelle Briski
michelle.briski@saintpaul.edu

Nicole Schroeder
nicole.schroeder@saintpaul.edu

Students should consult with the program advisor to develop an appropriate educational plan.

Admission into the Program

Applying by the priority application deadline (listed on the application) does not guarantee admission to the Medical Laboratory Technician Program.

Being admitted to Saint Paul College does not imply admission into the Medical Laboratory Technician Program.

After the priority review deadline indicated on the Application to the Medical Laboratory Technician Major, the Medical Laboratory Technician Admissions Committee will review each application in the order submitted on the basis of overall academic ability, GPA of college level courses, and assessment scores. Applicants are admitted on a first-qualified, first-served basis according to the order of application submission.

Notification of acceptance into the Medical Laboratory Technician Major will be sent by mail 6 weeks after the deadline date listed on the Application to the Medical Laboratory Technician form.

Students admitted into the Medical Laboratory Technician program must attend a mandatory orientation to complete documentation to enter the program.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS):

NAACLS
5600 N River RD, Suite 720
Rosemount, IL 60018-5119
Telephone: 773.714.8880
Fax: 773.714.8886
E-mail: info@naacls.org
website: www.naacls.org
Phlebotomy Technician

Program Overview
The Phlebotomy Technician program is a combination of classroom, laboratory, and applied experiences that will provide students with the training needed for employment in phlebotomy careers. Following the on-campus phlebotomy didactic coursework, students are assigned to a clinical affiliate for the clinical experience. This required portion of the curriculum provides an opportunity for demonstration of technical and affective skill competency. Students spend 100 hours at the affiliate where they must perform a minimum of 100 successful blood collection procedures, under the supervision of affiliate staff.

After program completion, graduates are eligible to take the Phlebotomy Technician Certification examination administered through the American Society of Clinical Pathology (ASCP) Board of Certification.

Phlebotomy technicians serve an integral role as members of the healthcare team. Phlebotomy is an entry level position in healthcare. Trained to collect blood specimens from patients, Phlebotomy technicians are skilled professionals who assist physicians in diagnosis and treatment of disease by ensuring the high quality of the specimen they provide for laboratory analysis. They practice safety to protect themselves and the patients they serve. Additionally, because phlebotomy involves significant direct patient contact, these laboratory professionals become the face of the laboratory and must adhere to standards of professional behavior and appearance.

Qualifications include an ability to work accurately under pressure, and to communicate effectively. Phlebotomy technicians like challenge and responsibility and are committed to providing high quality care to patients.

Employment growth in this field is faster than average and is expected to increase by 27% from 2012 to 2022 according to the National Bureau of Labor Statistics.

Career Opportunities
Phlebotomy technicians are employed in a variety of settings including hospitals, clinics, blood donation centers and other outpatient care centers.

Program Outcomes
1. The graduate will demonstrate proper selection and use of phlebotomy equipment for safe specimen procurement that maintains optimal specimen integrity.
2. The graduate will demonstrate awareness of and ability to respond to complications or special considerations.
3. The graduate will demonstrate standard safety practices designed to prevent injury or illness using Standard Precautions (including the use of Personal Protective Equipment).
4. The graduate will demonstrate effective interpersonal/professional/self-management skills to fulfill his/her job responsibilities in interactions with patients, colleagues and other members of the health care team.
5. The graduate will be prepared to take the examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).
6. The graduate will demonstrate preparedness for entry level employment as a phlebotomy technician.

Program Requirements

5.

Program Faculty
Nicole Schroeder
nicole.schroeder@saintpaul.edu

Program Requirements

☐ Check off when completed
☐ All courses must be successfully completed with a grade of “C” or better.
☐ Individuals must be at least 18 years of age.
☐ Students must attend a mandatory Phlebotomy Orientation to complete documentation to enter the program.

Course 

| BIOL 1730 Human Body Systems .................. 3 |
| HLTH 1410 Medical Terminology .................. 1 |
| HLTH 1432 Basic life support for Health Care Provider .................. 1 |
| PHIL 1722 Health Care Ethics ..................... 3 |
| PHLB 1405 Phlebotomy ......................... 4 |
| (Registration occurs following mandatory phlebotomy orientation) |
| PHLB 1410 Phlebotomy Clinical Experience ...... 2 |
| (Registration occurs following mandatory phlebotomy orientation) |
| COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication ...... 3 |

Total Program Credits .................. 17

Additional Program Requirements
- Grade of “C” (2.0) or higher in all courses with A/F grading criteria
- Pass (P) grade demonstrating satisfactory performance in meeting skill competencies in the PHLB clinical experience course
- Evidence of immunity to specified diseases
- Passing of a criminal background study prior to being placed in a PHLB clinical experience.

The College cannot guarantee placement in clinical experiences for students who do not have a clear background study. For more information about the background study process and disqualifying crimes, contact the Minnesota Department of Human Services at 651.296.3802.

Textbook and Supply Costs
Students should expect to spend approximately $680.00 beyond the cost of tuition and fees, for books, supplies (gloves), certification exam and liability insurance. Students are responsible for parking and transportation costs for the clinical experience portion of the program.

Required Phlebotomy Technician Certificate Orientation
Students must attend a mandatory information orientation to learn about program requirements and to complete documentation to enter the program.

Admission to the Program
Students who intend to begin PHLB courses must submit a letter of Intent during the semester preceding enrollment in order to be admitted into the Phlebotomy program. The Letter of Intent form can be accessed from the program website. Completed Letters of Intent should be submitted to One Stop. These will be accepted until the beginning of the next semester, but students who submit their letter of intent before the priority deadline are given preferences for admission to the major. The priority deadline is indicated on the program website. Students will be admitted to the program on a first-ready, first-served basis in the order that the Letters of Intent are received.

Being admitted to Saint Paul College does not imply admission to the Phlebotomy Technician Certificate program.

The Phlebotomy Technician Admissions Committee will review each letter of intent on the basis of overall academic ability, assessment scores, and completion of co-requisite courses.

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must be at least 18 years of age and meet the following minimum program entry requirements:
- **Reading:** Score of 78+ on Reading Comprehension or grade of “C” or better in READ 0722
- **Writing:** Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- **Arithmetic:** Score of 31+

**Assessment Results and Prerequisites:**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Requirements Guide

Phlebotomy Technician  CERTIFICATE (continued)

Program Start Dates
Fall, Spring

Course Sequence
This certificate can be completed in one semester as shown in the following sequence; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

Students must enroll in PHLB 1405 Phlebotomy and PHLB 1410 Phlebotomy Clinical Experience within the same semester to allow immediate progression to the Phlebotomy Clinical Experience following completion of on campus training. PHLB courses must be taken concurrently with or following successful completion of all other program course requirements with a grade of “C” or better.

The clinical experience typically occurs during the daytime operational hours of our affiliate clinical sites. Students must schedule their courses accordingly with evening or online course offerings.

Sequence for Full-Time Schedule
BIOL 1730 Human Body Systems ..................... 3
HLTH 1410 Medical Terminology ..................... 1
HLTH 1432 Basic life support for Health Care Provider ..................... 1
PHIL 1722 Health Care Ethics ......................... 3
PHLB 1405 Phlebotomy ................................. 4
(PHIL 1722 Health Care Ethics is taken concurrently)
PHLB 1410 Phlebotomy Clinical Experience ........... 2
(PHIL 1722 Health Care Ethics is taken concurrently)
COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication ............. 3

Total Program Credits ......................... 17
Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>BIOL 1740 General Biology 1</td>
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<tr>
<td>BIOL 2721 Human Anatomy and Physiology 1</td>
<td>4</td>
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<tr>
<td>BIOL 2722 Human Anatomy and Physiology 2</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2750 General Microbiology</td>
<td>4</td>
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<tr>
<td>COMM 1720 Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1711 Composition 1</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 1722 Health Care Ethics</td>
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<tr>
<td>PSYC 1720 Psychology Throughout the Lifespan</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1710 Introduction to Sociology</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Program Credits: 60

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to saintpaul.edu/Transfer.

Patient Care Technician AAS

BA Individualized Studies

Metropolitan State University

Program Start Dates

Fall, Spring, Summer

Course Sequence

This course sequence is recommended for a fulltime student; however, this sequence is not required. Contact Program Faculty with questions.

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>BIOL 1740 General Biology 1</td>
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<td>COMM 1720 Interpersonal Communication</td>
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<td>BIOL 1410 Medical Terminology</td>
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<td>HLTH 1410 Medical Terminology</td>
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<tr>
<td>HLTH 1570 Basic Life Support for Health Care Providers</td>
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<tr>
<td>HLTH 1580 Medical Office Skills for the Patient Care Technician</td>
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<tr>
<td>HLTH 1585 Job Readiness/Certification Exam Preparation</td>
<td>2</td>
</tr>
<tr>
<td>NAST 1111 Nursing Assistant &amp; Home Health Aide</td>
<td>4</td>
</tr>
<tr>
<td>NAST 1112 Nursing Assistant &amp; Home Health Aide</td>
<td>4</td>
</tr>
<tr>
<td>PHLB 1405 Phlebotomy</td>
<td>2</td>
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<tr>
<td>PHLB 1410 Phlebotomy Clinical Experience</td>
<td>1</td>
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Total Semester Credits: 13

Second Semester

<table>
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<tbody>
<tr>
<td>BIOL 2721 Human Anatomy and Physiology 1</td>
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<td>ENGL 1711 Composition 1</td>
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<tr>
<td>HLTH 1580 Medical Office Skills for the Patient Care Technician</td>
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<tr>
<td>PHIL 1722 Health Care Ethics</td>
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</table>

Total Semester Credits: 14

Third Semester (Summer Session)

<table>
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<tbody>
<tr>
<td>NAST 1111 Nursing Assistant &amp; Home Health Aide</td>
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<td>NAST 1112 Nursing Assistant Clinical</td>
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Total Semester Credits: 5

Fourth Semester

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<tr>
<td>BIOL 2722 Human Anatomy and Physiology 2</td>
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<td>BIOL 2750 General Microbiology</td>
<td>4</td>
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<tr>
<td>HLTH 1570 Basic Life Support for Health Care Providers</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1710 Introduction to Sociology</td>
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</table>

Total Semester Credits: 14

Fifth Semester

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<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>HLTH 1575 EKG &amp; Telemetry</td>
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</tr>
<tr>
<td>HLTH 1585 Job Readiness/Certification Exam Preparation</td>
<td>2</td>
</tr>
<tr>
<td>PHLB 1405 Phlebotomy</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Semester Credits: 14

Total Program Credits: 60

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or a grade of “C” or better in READ 0722

Writing: Score of 78+ or a grade of “C” or better in ENGL 0922

Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, BIOL, and CHEM courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Program Overview
Under the supervision of registered nurses and physicians, licensed practical nurses provide bedside care, monitor patients, gather information, evaluate patient needs and contribute to the patient’s care. Licensed practical nurses administer medications and perform treatments. Licensed practical nurses utilize observation, critical thinking, decision-making and communication skills in caring for patients.

The Practical Nursing Diploma is designed to meet the requirements to become licensed as a Practical Nurse.

Career Opportunities
Employment of LPN’s is expected to increase faster than the average for all occupations. 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, hospice, hospitals and transitional care units. Upon completion of the program, the graduate will be prepared to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).

Licensing or certification exams are independent of graduation requirements.

Program Outcomes
1. The graduate will participate in the nursing process of assessment, planning, implementation and evaluation to provide basic safe and effective nursing care to patients.
2. The graduate will communicate effectively with patients, families, significant others and health care personnel.
3. The graduate will meet the student learning outcomes of the Nursing program.
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.

Required CPR course
Students are required to successfully complete a cardiopulmonary resuscitation (CPR) course prior to registering for PRNS 1482 Clinical 2.

Part-time/Full-time Options
Part-time and full-time options are available. PRNS theory courses are scheduled days and evenings. Clinical experiences may be scheduled both days and evenings due to clinical site availability. All Practical Nursing Saint Paul College students have the option of days or evenings.

Days: Saint Paul College
Evenings: Saint Paul College

Application Process
Prior to submitting the Application to Practical Nursing Major form, an applicant must:
1. Complete the ACCUPLACER assessment and meet Minimum Program Entry Requirements (see below box).
2. Complete all pre-requisites prior to PRNS courses (listed on the back of this guide)
   Pre-requisites must meet a GPA of 2.75 or better.
3. Complete the Test of Essential Academic Skills (TEAS score of Basic, Proficient, Advanced, or Exemplary).
4. Nursing Assistant certification, obtained within the last five years, or active Minnesota Nursing Assistant Registry is required starting spring 2018.
5. Submit a record of the required immunizations prior to the semester in which the student registers for clinical courses.
   The nursing admissions committee will review each application and determine admission on the basis of overall academic performance, including all previous college course work, GPA, ACCUPLACER assessment scores and Test of Essential Academic Skills (TEAS VI) scores. Notification of acceptance into the Practical Nursing major will be sent approximately 2-3 weeks after the admissions committee has met.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on ACCUPLACER assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements
Nursing Assistant certification taken within the last five years or an active Minnesota Nursing Assistant Registry.

☐ All classes must be successfully completed with a grade of “C” or better.

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

☐ Check off when completed

☐ HLTH 1410 Medical Terminology ................................... 1

Health Core Credits ................................................................. 1

☐ Goal 1: ENGL 1711 Composition 1 ................................. 4

☐ Goal 3: BIOL 1730 Human Body Systems ............................ 3

☐ Goal 5: PSYC 1720 Psychology Throughout the Lifespan ............ 3

General Education Requirements ............................................... 10

☐ TEAS Test: Complete Test of Essential Academic Skills (TEAS)

PRNS Core Courses ...................................................................... Cr

☐ PRNS 1425 Essentials of Clinical Pharmacology .................... 2

☐ PRNS 1435 Foundations of Nursing ........................................ 4

☐ PRNS 1481 Clinical 1 .............................................................. 3

☐ Evidence of current CPR certification must be presented prior to taking PRNS 1482 Clinical 2.

☐ PRNS 1482 Clinical 2 .............................................................. 3

☐ PRNS 1483 Clinical 3 .............................................................. 3

☐ PRNS 1521 Nursing Care of Adults 1 ..................................... 4

☐ PRNS 1524 Nursing Care of Adults 2 ..................................... 3

☐ PRNS 1530 Maternal Child Health ........................................ 3

☐ PRNS 2410 Psycho/Social Nursing ....................................... 2

☐ PRNS 2491 Transition to Practice ......................................... 2

PRNS Core Credits ................................................................. 15

Health Core Credits ................................................................. 1

General Education Requirements ............................................... 10

Total Program Credits ............................................................... 40

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required.

First Semester
HLTH 1410 Medical Terminology .......................... 1
Goal 1: ENGL 1711 Composition 1 .......................... 4
Goal 3: BIOL 1730 Human Body Systems ................ 3
Goal 5: PSYC 1720 Psychology Throughout the Lifespan ........ 3

Pre-Nursing Credits ................................................................. 11

Second Semester
Practical Nursing Courses
PRNS 1425 Essentials of Clinical Pharmacology .... 2
PRNS 1435 Foundations of Nursing ....................... 4
PRNS 1481 Clinical 1 .............................................................. 3
PRNS 1521 Nursing Care of Adults 1 ....................... 4
PRNS 2410 Psycho/Social Nursing .......................... 2

Evidence of current CPR certification must be presented prior to taking PRNS 1482 Clinical 2.

PRNS Core Credits ................................................................. 15

Third Semester
Practical Nursing Courses
PRNS 1482 Clinical 2 .............................................................. 3
PRNS 1483 Clinical 3 .............................................................. 3
PRNS 1524 Nursing Care of Adults 2 ....................... 3
PRNS 1530 Maternal/Child Health .................................. 3
PRNS 2491 Transition to Practice ......................................... 2

PRNS Core Credits ................................................................. 14

Total Program Credits ............................................................... 40
Nursing Assistant Home Health Aide  CERTIFICATE

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) test to be placed on the Minnesota State Nursing Assistant Registry.

Qualifications include achieving appropriate assessment scores as indicated in Minimum Program Entry Requirements.

Licensing certification or registry status are independent of graduation requirements.

Career Opportunities
Graduates of the Nursing Assistant/Home Health Aide Program must successfully take and complete the nursing assistant test exam administered through the designated State testing service to be placed on the Minnesota State Nursing Assistant Registry. Nursing assistants must be on the registry to be employed in the long term care setting.

In Minnesota, employment for nursing assistants is expected to grow at an average rate. Nationally, the number of jobs is expected to grow faster than average.

Upon completion of this course, certified nursing homes or certified boarding care homes are required to reimburse for training and testing expenses paid by the student. This is to be done 90 days from the date of employment.

Note: reimbursement is not paid to third parties.

Licensing or certification exams are independent of graduation requirements.

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 Faculty
Please contact the Health Programs Administrative Assistant at 651.846.1413.

Additional Program Material Costs
Students should expect to spend approximately $327.00 beyond the cost of tuition and fees for Minnesota registry test, books, supplies or uniforms.

Program Requirements
☐ Check off when completed

Course                  Cr
NAST 1111 Nursing Assistant & Home Health Aide ...................... 4
NAST 1112 Nursing Assistant – Clinical.................... 1
Total Program Credits . . . . . . . . . . . . . . . . . . . 5

Program Start Dates
Fall, Spring, Summer

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+ or grade of “C” or better in READ 0721
OR
ESL Reading: Score of 81 or better

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Overview
Pharmacy technicians play an integral role in assisting pharmacists with medication dispensing. Pharmacy technicians work in hospitals, drug stores, and other medical settings. Pharmacy technicians perform a variety of duties that require strong attention to detail. Pharmacy Technicians perform duties such as, entering prescription orders into the computer, preparing medications for pharmacist verification (including measuring and sometimes mixing the medication), maintaining accurate patient records, performing calculations, and providing customer service.

This program prepares students to take the Pharmacy Technician Certification Exam.

Career Opportunities
Pharmacy technicians work in hospitals, drug stores, specialty pharmacies, and insurance company settings. Employment projections indicate an increase of 32% from 2010 to 2020, according to the U.S. Bureau of Labor Statistics.

Program Outcomes
1. Graduates will have skills to provide medications to patients including ordering stocking and packaging.
2. Graduates will understand and apply skills in institutional setting in sterile product processing.
3. Graduates will have mastered the general education requirements for work and life.
4. Graduates will be able to perform administrative duties in a variety of pharmacy related workplace settings.
5. Graduates will apply appropriate customer service skills in a hospital or retail based pharmacy.
6. Graduates will be prepared to take the Pharmacy Technician Certification Exam.
7. Graduates will demonstrate an understanding of all regulations that govern pharmacy technicians.
8. Graduates will perform duties as a pharmacy technician in retail and hospital environments.
9. Graduates will demonstrate the ability to prepare and interpret pharmacy orders accurately.
10. Graduates will exhibit work ethic characteristics of professionalism, responsibility and dependability.
11. Graduates will apply knowledge of basic sciences to the practice of pharmacy technology.
12. Graduates will demonstrate ability to communicate with patients, health care providers and colleagues.

Program Faculty
Hannah Kokesh  hannah.kokesh@saintpaul.edu

Additional Program Material Costs
Students should expect to spend approximately $750.00 beyond the cost of tuition and fees for books, supplies, uniforms, parking at internship site, and liability insurance fee. There are additional fees for the certification exam and board of pharmacy registration (see below).

Licenses/Testing
- Certification Exam $120.00
- Minnesota Board of Pharmacy Registration $35.00

Application Process
After completing the Saint Paul College application and admission process, students interested in the Pharmacy Technician program must submit a completed Application to Pharmacy Technician Program form available on the Pharmacy Technician Web page: saintpaul.edu/PharmacyTech and meet the following criteria:

- Completion of BIOL 1730 – Human Body Systems (Must earn a grade of “C” or better in this course)
- Completion of HLTH 1410 – Medical Terminology (Must earn a grade of “C” or better in this course)
- Achieve a cumulative GPA of 2.8 or better

Admission to the Program
Applying by the priority application deadline (listed on the application) does not guarantee admission to the Pharmacy Technician Program. Being admitted to Saint Paul College does not imply admission into the Pharmacy Technician Program. The Pharmacy Technician Admissions Committee will review each application on the basis of overall academic ability, GPA of college level courses, and performance in BIOL1730 and HLTH 1410. Students admitted into the Pharmacy Technician Program must attend a mandatory orientation to complete documentation to enter the program.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below. For more information please go to saintpaul.edu/Transfer.

Pharmacy Technician AAS
BA Health Care Administration
Concordia University, St. Paul
BA Individualized Studies
Metropolitan State University
BS Healthcare and Human Service Management
Saint Mary’s University-Twin Cities Campus

Program Requirements
- All courses must be successfully completed with a grade of “C” or better.

Course Cr
- HLTH 1300 Behaviors for Success and Respecting Diversity ......................... 1
- HLTH 1310 Communication in Healthcare .................................................. 1
- HLTH 1320 Safety Precautions and Awareness of Client Needs ..................... 1
- HLTH 1410 Medical Terminology .............................................................. 1
- PHAR 1710 Pharmacy Law and Ethics ......................................................... 3
- PHAR 1715 Fundamentals of Pharm Tech 1 .................................................. 5
- PHAR 1720 Foundations of Pharmaceutical Calculations ............................ 4
- PHAR 1730 Principles of Pharmacy ............................................................. 5
- PHAR 1735 Pharmacy Medication Tech ....................................................... 1
- PHAR 1750 Pharmacy Internship 1 - Retail ............................................... 3
- PHAR 2710 Fundamentals of Pharm Tech 2 ............................................... 5
- PHAR 2720 Pharmacy Sterile Products Lab ............................................... 5
- PHAR 2740 Pharmacotherapy of Disease Processes ..................................... 4
- PHAR 2750 Pharmacy Internship 2 - Hospital ............................................ 4

Subtotal ................................................................. 43

General Education/MnTC Requirements
- BIOL 1730 Human Body Systems – 3 cr
- COMM 17XX – 3 cr
- ENGL 1711 Composition 1 – 4 cr
- ENGL 17XX – 3 cr
- ENGL 17XX – 4 cr
- MATH, READ, and ENGL courses have additional prerequisites.

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Minimum Program Entry Requirements
- Reading: Score of 78+ or a grade of “C” or better in READ 0722
- Writing: Score of 78+ on Reading Comprehension or a grade of “C” or better in ENGL 0922
- College Level Mathematics: Score of 50+ or a grade of “C” or better in MATH 0920

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Program Requirements Guide 2018 - 2019

Pharmacy Technician  AAS DEGREE (continued)

Program Start Dates
Fall

Course Sequence
The following course sequence is recommended for a full-time student; however, the sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with Program Advisor each semester.

All courses must be successfully completed with a grade of “C” or better. Students must meet minimum program entry requirements.

First Semester
HLTH 1410 Medical Terminology .......................... 1
Goal 1: COMM 17XX ........................................... 3
Goal 3: BIOL 1730 Human Body Systems .................. 3
Goal 3: CHEM 1711 Principles of Chemistry 1 .......... 4
HLTH 1300 Behaviors for Success and
Respecting Diversity ........................................... 1
HLTH 1310 Communication in Healthcare .............. 1
HLTH 1320 Safety Precautions and
Awareness of Client Needs .................................. 1
Total Semester Credits ......................................... 14

Second Semester
PHAR 1710 Pharmacy Law and Ethics ...................... 3
PHAR 1715 Fundamentals of Pharmacy
Technology 1 ..................................................... 5
PHAR 1720 Foundations of Pharmaceutical
Calculations ..................................................... 4
Goal 1: ENGL 1711 Composition 1 ......................... 4
Total Semester Credits ......................................... 16

Third Semester
PHAR 1730 Principles of Pharmacy .......................... 5
PHAR 1735 Pharmacy Medication Technology .......... 1
PHAR 1750 Pharmacy Internship 1 – Retail .............. 3
PHAR 2710 Fundamentals of Pharmacy
Technology 2 ..................................................... 5
Total Semester Credits ......................................... 14

Fourth Semester
PHAR 2720 Pharmacy Sterile Products Lab ............... 5
PHAR 2740 Pharmacotherapy of Disease Processes .... 4
PHAR 2750 Pharmacy Internship 2 - Hospital .......... 4
Goal 6: PHIL 1722 Health Care Ethics ...................... 3
Total Semester Credits ......................................... 16

Total Program Credits .......................................... 60

Saint Paul College's Pharmacy Technician program is accredited by the American Society of Health-System Pharmacists (ASHP) and the Accreditation Council for Pharmacy Education (ACPE).
Pharmacy Technician DIPLOMA

Program Overview
Pharmacy technicians play an integral role in assisting pharmacists with medication dispensing. Pharmacy technicians work in hospitals, drug stores, and other medical settings. Pharmacy technicians perform a variety of duties that require strong attention to detail. Pharmacy Technicians perform duties such as, entering prescription orders into the computer, preparing medications for pharmacist verification (including measuring and sometimes mixing the medication), maintaining accurate patient records, performing calculations, and providing customer service.

This program prepares students to take the Pharmacy Technician Certification Exam.

Career Opportunities
Pharmacy technicians work in hospitals, drug stores, specialty pharmacies, and insurance company settings. Employment projections indicate an increase of 32% from 2010 to 2020, according to the U.S. Bureau of Labor Statistics.

Program Outcomes
1. Graduates will have skills to provide medications to patients including ordering stocking and packaging.
2. Graduates will understand and apply skills in institutional setting in sterile product processing.
3. Graduates will have mastered the general education requirements for work and life.
4. Graduates will be able to perform administrative duties in a variety of pharmacy related workplace settings.
5. Graduates will apply appropriate customer service skills in a hospital or retail based pharmacy.
6. Graduates will be prepared to take the Pharmacy Technician Certification Exam.
7. Graduates will demonstrate an understanding of all regulations that govern pharmacy technicians.
8. Graduates will perform duties as a pharmacy technician in retail and other practice settings.
9. Graduates will demonstrate the ability to prepare and interpret pharmacy orders accurately.
10. Graduates will exhibit work ethic characteristics of professionalism, responsibility and dependability.
11. Graduates will apply knowledge of basic sciences to the practice of pharmacy technology.
12. Graduates will demonstrate ability to communicate with patients, health care providers and colleagues.

Program Faculty
Hannah Kokesh  hannah.kokesh@saintpaul.edu

Additional Program Material Costs
Students should expect to spend approximately $450.00 beyond the cost of tuition and fees for books, supplies, uniforms and liability insurance fee. There are additional fees for the certification exam and Board of Pharmacy Registration (see below).

Licenses/Testing
- Certification Exam $120.00
- Minnesota Board of Pharmacy Registration $35.00

Application Process
After completing the Saint Paul College application and admission process, students interested in the Pharmacy Technician program must submit a completed Application to Pharmacy Technician Program form available on the Pharmacy Technician Web page: saintpaul.edu/PharmacyTech and meet the following criteria:
- Completion of BIOL 1730 – Human Body Systems (Must earn a grade of “C” or better in this course)
- Completion of HLTH 1410 – Medical Terminology (Must earn a grade of “C” or better in this course)
- Achieve a cumulative GPA of 2.8 or better

Admission to the Program
Applying by the priority application deadline (listed on the application) does not guarantee admission to the Pharmacy Technician Program. Being admitted to Saint Paul College does not imply admission into the Pharmacy Technician Program. The Pharmacy Technician Admissions Committee will review each application on the basis of overall academic ability, GPA of college level courses, and performance in BIOL 1730 and HLTH 1410. Students admitted into the Pharmacy Technician Program must attend a mandatory orientation to complete documentation to enter the program.

Program Requirements
☐ Check off when completed
☐ All courses must be successfully completed with a grade of “C” or better.

Course Cr
☐ HLTH 1300 Behaviors for Success and Respecting Diversity ................. 1
☐ HLTH 1310 Communication in Healthcare .................................. 1
☐ HLTH 1320 Safety Precautions and Awareness of Client Needs .......... 1
☐ HLTH 1410 Medical Terminology ............................................ 1
☐ PHAR 1710 Pharmacy Law and Ethics ..................................... 3
☐ PHAR 1715 Fundamentals of Pharm Tech 1 ............................... 5
☐ PHAR 1720 Foundations of Pharmaceutical Calculations .............. 4
☐ PHAR 1730 Principles of Pharmacy ........................................... 5
☐ PHAR 1735 Pharmacy Medication Tech .................................... 1
☐ PHAR 1750 Pharmacy Internship 1 - Retail ............................... 3
☐ PHAR 2740 Pharmacotherapy of Disease Processes .................... .4
☐ Goal 1: COMM 17XX ......................................................... 3
☐ Goal 3: BIOL 1730 Human Body Systems ............................... 3

Total Program Credits .................. 35

Course Sequence
The following course sequence is recommended for a full-time student; however, the sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with Program Advisor each semester.

First Semester
HLTH 1410 Medical Terminology ............................................ 1
Goal 1: COMM 17XX ......................................................... 3
Goal 3: BIOL 1730 Human Body Systems ............................... 3
HLTH 1300 Behaviors for Success and Respecting Diversity .......... 1
HLTH 1310 Communication in Healthcare ................................ 1
HLTH 1320 Safety Precautions and Awareness of Client Needs .......... 1
Total Semester Credits .................................................. 12

Second Semester
PHAR 1710 Pharmacy Law and Ethics ..................................... 3
PHAR 1715 Fundamentals of Pharmacy Technology 1 .................... 5
PHAR 1720 Foundations of Pharmaceutical Calculations .............. 4
Total Semester Credits .................................................. 13

Third Semester
PHAR 1730 Principles of Pharmacy ........................................... 5
PHAR 1735 Pharmacy Medication Tech .................................... 1
PHAR 1750 Pharmacy Internship 1 - Retail ............................... 3
PHAR 2740 Pharmacotherapy of Disease Processes .................... .4
Total Semester Credits .................................................. 13

Program Start Dates
Fall

Program Requirements Guide 2018 - 2019

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or a grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or a grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

364D (7199)
Program Requirements

<table>
<thead>
<tr>
<th>Goal Area</th>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Goal 1: Communication</td>
<td>ENGL 1711 Composition</td>
<td>4 cr</td>
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<tr>
<td></td>
<td>ENGL 1712 Composition</td>
<td>2 cr</td>
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<tr>
<td></td>
<td>COMM 1710 Fundamentals of Public Speaking</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td>COMM 1730 Intercultural Communications</td>
<td>3 cr</td>
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<tr>
<td></td>
<td>Goal 3 Natural Science</td>
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<tr>
<td></td>
<td>BIOL 1740 General Biology</td>
<td>5 cr</td>
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<tr>
<td></td>
<td>BIOL 1760 Nutrition</td>
<td>3 cr</td>
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<tr>
<td></td>
<td>BIOL 2721 Anatomy &amp; Physiology</td>
<td>4 cr</td>
</tr>
<tr>
<td></td>
<td>BIOL 2722 Anatomy &amp; Physiology</td>
<td>2 OR</td>
</tr>
<tr>
<td></td>
<td>CHEM 1711 Principles of Chemistry</td>
<td>4 cr</td>
</tr>
<tr>
<td></td>
<td>MATH 1740 Introduction to Statistics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PSYC 1710 General Psychology</td>
<td>4 cr</td>
</tr>
<tr>
<td></td>
<td>SOCI 1710 Introduction to Sociology</td>
<td>4 cr</td>
</tr>
<tr>
<td>General Education/MnTC Requirements</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

| Total Program Credits                                                    |                                      | 60      |
Program Requirements Guide 2018 - 2019

Public Health  AS DEGREE (continued)

Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester and some may be offered summer term.

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1740 General Biology 1</td>
<td>5</td>
</tr>
<tr>
<td>COMM 1710 Fundamentals of Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1711 Composition 1</td>
<td>4</td>
</tr>
<tr>
<td>PUBH 1700 Personal &amp; Community Health (fall only)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Credits</strong></td>
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</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2721 Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1712 Composition 2</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1740 Introduction to Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PUBH 1710 Consumer Health (spring only)</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 2700 Public Health Overview (spring only)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>16</strong></td>
</tr>
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Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2722 Anatomy &amp; Physiology 2 OR CHEM 1711 Principles of Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 1710 General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PUBH 2710 Public Health Education (fall only)</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 2720 Global Health (fall only)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

Fourth Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1760 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1730 Intercultural Communications</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 2XXX Focus area course</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 2770 Public Health Practicum</td>
<td>2</td>
</tr>
<tr>
<td>SOCI 1710 Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Semester Credits</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Total Program Credits** ...... **60**
1. Graduates will have demonstrated knowledge of basic respiratory system physiology.

2. Graduates will have demonstrated knowledge of cardiopulmonary resuscitation (CPR) and basic life support (BLS) procedures.

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

4. Graduates will be prepared for employment in Respiratory Therapy clinical settings.

5. Graduates will have successfully mastered the American College of Chest Physicians (ACCP) Essential Knowledge and Skills (KESS) for Respiratory Therapists.

Program Faculty
Joseph Buhain joseph.buhain@saintpaul.edu
Kathy Ross kathy.ross@saintpaul.edu
Judy Russell judy.russell@saintpaul.edu

Full-Time Only
Students in this program must be enrolled full-time with a cohort of students. Technical courses are offered only during the day.

Textbook and Supply Costs
Students should expect to spend approximately $2,000, beyond the cost of tuition and fees, for books, for lab coat and other supplies. Additional costs include an ACLS, PALS, BLS course.

Saint Paul College’s Respiratory Therapist Program is accredited by the Commission on Accreditation for Respiratory Care (www.coarc.com).

CoARC
The Respiratory Therapist Admissions Committee will review each application on the basis of overall academic ability, GPA of college level courses, assessment scores, and meeting the above criteria. Notification of acceptance into the Respiratory Therapist Major will be sent by mail 6-weeks after the deadline date stated on the Application to Respiratory Therapist Major form.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722

Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922

College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements

☐ Check off when completed
☐ All classes must be successfully completed with a grade of “C” or better.

General Education Requirements

Preliminary courses prior to application. Cr

The following (2) General Education courses must be completed prior to submitting your application form for the Respiratory Therapy Major.

☐ Goal 1: ENGL 1711 Composition 1 ........................................ 4
☐ Goal 1: COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication ................. 3
☐ Goal 2: CHEM 1711 Principles of Chemistry 1 .......................... 4
☐ Goal 2: History, Social Sciences and Behavioral Sciences .......... 3
☐ Goal 6: PHIL 1722 Health Care Ethics ................................... 3

**Total Prior to Application** .................................................. 7

Preliminary courses prior to RESP courses. Cr

The following (4) General Education courses must be completed before you will be allowed to register for the first RT core course RESP1411 Respiratory Care Essentials.

☐ HLTH 1410 Medical Terminology ......................................... 1
☐ Goal 1: COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication ................. 3
☐ Goal 2: CHEM 1711 Principles of Chemistry 1 .......................... 4
☐ Goal 5: History, Social Sciences and Behavioral Sciences .......... 3
☐ Goal 6: PHIL 1722 Health Care Ethics ................................... 3

**Total Prior to Respiratory Core** ......................................... 14

General Education Subtotal. ............................................. 21

☐ Completion or Evidence of American Heart BLS with AED(CPR) course prior to the first RC Clinical. RESP1581 Respiratory Care Clinical 1.

Respiratory Care Core Courses Cr

☐ RESP 1411 Respiratory Care Essentials .................................. 2
☐ RESP 1412 Respiratory Care Essentials Lab .......................... 1
☐ RESP 1510 Cardiopulmonary Pathophysiology 1 .................. 3
☐ RESP 1521 Respiratory Care Therapeutics ......................... 4
☐ RESP 1523 Respiratory Care Therapeutics Lab ...................... 2
☐ RESP 1540 Respiratory Care Pharm .................................... 2
☐ RESP 1580 Introduction to Clinical .................................... 1
☐ RESP 1581 Respiratory Care Clinic 1 ..................................... 3
☐ RESP 1582 Respiratory Care Clinic 2 ..................................... 3
☐ RESP 1583 Respiratory Care Clinic 3 ..................................... 6
☐ RESP 1597 Respiratory Care Clinic 4 ..................................... 5
☐ RESP 1599 Respiratory Care Clinic 5 ..................................... 4
☐ RESP 2411 Mechanical Vent ............................................. 3
☐ RESP 2412 Mechanical Vent Lab ........................................ 1
☐ RESP 2420 Cardiopulmonary Pathophysiology 2 .................. 1
☐ RESP 2430 Neonatal/Pediatric RC ...................................... 2
☐ RESP 2440 Mgmt of the Critical Ill ..................................... 4
☐ RESP 2450 Cardiopulmonary Diagnostics ............................ 1
☐ RESP 2452 Advanced Simulation ........................................ 3
☐ RESP 2458 Multidisciplinary RT ........................................ 1
☐ RESP 2470 Registry Review ............................................. 3
☐ RESP 2510 Survey of Human Disease .................................. 2

**Respiratory Care Core Subtotal** ...................................... 57

**Total Program Credits** .............................................. 78

Program Start Dates

Fall

Course Sequence

This course sequence is required for the remaining RESP courses.

Students should consult with the Program Advisor each semester.

Must complete all courses with a “C” or better to go onto next semester.

Program Major Begins

First Semester Fall

RESP 1411 Respiratory Care Essentials ............................... 2
RESP 1412 Respiratory Care Essentials Lab ....................... 1
RESP 1540 Respiratory Care Pharm .................................... 2
RESP 1580 Introduction to Clinical .................................... 1

**Total Semester Credits** ............................................... 6

Second Semester Spring

RESP 1510 Cardiopulmonary Pathophysiology 1 ................ 3
RESP 1521 Respiratory Care Therapeutics ........................... 4
RESP 1523 Respiratory Care Therapeutics Lab ...................... 2
RESP 1581 Respiratory Care Clinic 1 ..................................... 3

**Total Semester Credits** ............................................... 12

Third Semester Summer

RESP 1582 Respiratory Care Clinic 2 .................................. 3
RESP 2411 Mechanical Vent ............................................. 3
RESP 2412 Mechanical Vent Lab ........................................ 1
RESP 2420 Cardiopulmonary Pathophysiology 2 .................. 1

**Total Semester Credits** ............................................... 8

Fourth Semester Fall

RESP 1583 Respiratory Care Clinic 3 .................................. 6
RESP 2430 Neonatal/Pediatric RC ...................................... 2
RESP 2440 Mgmt of the Critical Ill ..................................... 4
RESP 2510 Survey of Human Disease .................................. 2

**Total Semester Credits** ............................................... 14

Fifth Semester Spring

RESP 1597 Respiratory Care Clinic 4 .................................. 5
RESP 2452 Advanced Simulation ........................................ 3
RESP 2458 Multidisciplinary RT ........................................ 1
RESP 2450 Cardiopulmonary Diagnostics ............................ 1
RESP 2470 Registry Review ............................................. 3

**Total Semester Credits** ............................................... 13

Sixth Semester Summer

RESP 1599 Respiratory Care Clinic 5 .................................. 4

**Total Semester Credits** ............................................... 4

Total Respiratory Care Core Credits .................................. 57

Total General Education Credits (prior to beginning the RESP major) ........ 21

**Total Program Credits** ............................................... 78
Program Requirements Guide 2018 - 2019

Surgical Technology AAS DEGREE

Program Overview
The Surgical Technologist is a critical member of the patient care team, responsible for a wide variety of duties, including preparing the patient for surgery, assisting the surgeon and other operating room personnel. The Surgical Technology AAS degree is designed to provide students with the knowledge, skills, and attitudes to participate effectively in the perioperative environment.

Career Opportunities
Most surgical technologists work in hospitals. Employment of surgical technologists is projected to grow 15 percent from 2014 to 2024, much faster than the average for all occupations. Advances in medical technology have made surgery safer, and more operations are being done to treat a variety of illnesses and injuries.

Program Outcomes
1. Integrate a comprehensive understanding of medical terminology into the practice of surgical technology.
2. Apply basic understanding of anatomy, physiology, pathophysiology, pharmacology, and microbiology to assisting with surgical procedures.
3. Demonstrate proficiency in the application of aseptic technique in all aspects of the surgical care of patients.
4. Demonstrate basic competence in the use of surgical instruments, supplies, and equipment used to provide patient care.
5. Communicate effectively and respectfully with all members of the surgical team.
6. Work effectively with a diverse population.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.
For more information please go to saintpaul.edu/Transfer.

Surgical Technology AAS
BA Individualized Studies Metropolitan State University
BS Healthcare and Human Service Management Saint Mary’s University-Twin Cities Campus

Program Faculty
Viki Viertel viki.viertel@saintpaul.edu

Program Requirements
☐ Check off when completed
☐ All technical courses (SURG) must be successfully completed with a grade of "C" or better.

Course Cr
☐ BIOL 1471 Medical Terminology ........... 2
☐ BTEC 1418 Computer Fundamentals .......... 3
☐ SURG 1405 Intro to Surgical Technology .... 1
☐ SURG 1410 Sterile Processing ............... 3
☐ SURG 1415 Surgical Microbiology .......... 2
☐ SURG 2405 Pharmacology .................. 2
☐ SURG 2410 Pathology & Procedure ........... 4
☐ SURG 2415 Operating Room Lab 1 ............. 4
☐ SURG 2420 Operating Room Lab 2 ............. 4
☐ SURG 2425 Operating Room Clinical 1 & 2 .... 16
Subtotal ........................................ 41
General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ........................ 3
☐ COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication – 3 cr
☐ Goal 3 Natural Sciences ..................... 13
☐ BIOL 1740 General Biology 1 ............... 5
☐ BIOL 2721 Human Anatomy and Physiology 1 .... 4
☐ BIOL 2722 Human Anatomy and Physiology 2 .... 4
☐ Goal 5: History, Social Science and Behavioral Sciences .......................... 3
☐ PSYC 1720 Psychology Throughout the Lifespan ... 3
General Education Requirements ........... 19
Total Program Credits .......................... 60

Prerequisites/Admission Guidelines:
A background in general math, anatomy/physiology, biology, health and life sciences, medical terminology, and nursing assistant skills can be helpful.
1. Submit evidence of immunization or a positive Rubella Titer. Students are strongly encouraged to take the Hepatitis B vaccine.
2. A GPA of 2.75 in college-level Sterile Processing certificate courses is required.
3. Attend required Orientation Session after formal program acceptance
4. Complete required CPR Course (prior to clinical courses)

SURG 2XXX courses are restricted to students admitted to the Surgical Technology program.
A medical exam is REQUIRED.

Program Start Dates
Fall, Spring, Summer

Course sequence
The following course sequence is recommended. Not all courses are offered each semester; a selection of courses is offered summer term.
Students should consult with their Program Advisor each semester.

First Semester
BIOL 1471 Medical Terminology ................ 2
PSYC 1720 Psychology Throughout the Lifespan .. 3
Total Semester Credits .......................... 8

Second Semester
BIOL 1740 General Biology 1 ...................... 5
PSYC 1720 Psychology Throughout the Lifespan .. 3
Total Semester Credits .......................... 12

Third Semester
BIOL 1740 General Biology 2 ........................ 4
SURG 1405 Intro to Surgical Technology ........... 1
SURG 1410 Sterile Processing ...................... 3
SURG 1415 Surgical Microbiology ................ 2
Total Semester Credits ........................... 10

Fourth Semester
BIOL 2721 Human Anatomy and Physiology 1 .... 4
SURG 2415 Operating Room Lab 1 ................. 4
SURG 2420 Operating Room Lab 2 ................. 4
Total Semester Credits ........................... 14

Fifth Semester
SURG 2425 Operating Room Clinical 1 & 2 ........ 16
Total Semester Credits ............................ 16

Total Program Credits ........................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of "C" or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or Grade of "C" or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of "C" or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, BIOL, and CHEM courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
**Program Requirements Guide 2018 - 2019**

**Sterile Processing**

**Certificate**

**Program Overview**
The Saint Paul College Sterile Processing certificate is a 30-credit program that prepares graduates to work in medical facilities that prepare surgical instruments, supplies and equipment necessary for healthcare. This program includes a broad introduction to health sciences, as well as medical language, communication and computers. The program curriculum includes decontamination, preparation, packing, sterilization and sterile storage.

Students who successfully complete the certificate program are prepared for entry-level employment in a sterile processing position, eligible to take the certification examination following 400 hours of professional employment, and eligible to apply to the AAS Surgical Technology Program at Saint Paul College.

**Career Opportunities**
The work environment is dynamic and fast-paced. The work is challenging, highly technical, and complex. The performance of this vital role has a major impact on the smooth operation of the many departments to which it provides products and services. Employment opportunities may be within hospitals, outpatient centers, and instrument processing centers.

Wage information is available from the Minnesota Department of Education and the Minnesota Department of Employment and Economic Development.

**Program Outcomes**
1. Utilize the English language effectively to read, write, speak, and listen critically.
2. Develop the capacity to identify, discuss, and reflect upon social and behavioral issues.
3. Demonstrate comprehension of human and biological systems.
4. Enhance mathematical and logical thinking techniques.
5. Improve their awareness and understanding of health and wellness.

**Program Faculty**
Viki Viertel 
viki.viertel@saintpaul.edu

**Additional Program Materials**
Students should expect to spend approximately $135 for supplies. This cost is beyond the cost of tuition and fees.

**Program Requirements**
- All technical courses (SURG) must be successfully completed with a grade of “C” or better.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>BIOL 1471 Medical Terminology</td>
<td>2</td>
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<tr>
<td>BTEC 1418 Computer Fundamentals</td>
<td>3</td>
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<tr>
<td>SURG 1405 Intro to Surgical Technology</td>
<td>1</td>
</tr>
<tr>
<td>SURG 1410 Sterile Processing</td>
<td>3</td>
</tr>
<tr>
<td>SURG 1415 Surgical Microbiology</td>
<td>2</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

**General Education/MnTC Requirements**

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
- Goal 1: Communication ........................... 3
- COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication – 3 cr
- Goal 3 Natural Sciences .......................... 13
- BIOL 1740 General Biology 1 .................... 5
- BIOL 2721 Human Anatomy and Physiology 1 .... 4
- BIOL 2722 Human Anatomy and Physiology 2 .... 4
- Goal 5: History, Social Science and Behavioral Sciences ........................................ 3
- PSYC 1720 Psychology Throughout the Lifespan ........................................ 3
- **General Education Requirements** .............. **19**

**Total Program Credits** ......................... **30**

*Sterile Processing certificate, a GPA of 2.75 in college-level Sterile Processing certificate courses is a program requirement for Surgical Technology Associate of Applied Science (AAS) degree at Saint Paul College.

**Program Start Dates**
- Fall, Spring, Summer

**Course Sequence**
This course sequence is recommended.

Not all courses are offered each semester; a selection of courses is offered summer term.

Students should consult with the Program Advisor each semester.

**First Semester**
- BIOL 1740 General Biology 1 .................... 5
- PSYC 1720 Psychology Throughout the Lifespan ........................................ 3
- **Total Semester Credits** ......................... **8**

**Second Semester**
- BIOL 1471 Medical Terminology .................. 2
- BIOL 2721 Human Anatomy and Physiology 1 .... 4
  (BIOL 1740 is a prerequisite to BIOL 2721)
- BTEC 1418 Computer Fundamentals ............... 3
- COMM 1710 Fundamentals of Public Speaking OR COMM 1720 Interpersonal Communication – 3 cr ........................................ 3
- **Total Semester Credits** ......................... **12**

**Third Semester**
- BIOL 2722 Human Anatomy and Physiology 2 .... 4
  (BIOL 2721 is a prerequisite to BIOL 2722)
- SURG 1405 Intro to Surgical Technology .......... 1
- SURG 1410 Sterile Processing ..................... 3
- SURG 1415 Surgical Microbiology ................. 2
  (BIOL 2721 and BIOL 1471 are prerequisites to SURG 1405, 1410, 1415)
- **Total Semester Credits** ......................... **10**
- **Total Program Credits** ......................... **30**

**Minimum Program Entry Requirements**

Students entering this program must meet the following minimum program entry requirements:

- **Reading**: Score of 78+ or grade of “C” or better in READ 0722
- **Writing**: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- **College Level Mathematics**: Score of 50+ or grade of “C” or better in MATH 0920

**Assessment Results and Prerequisites**

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

**Information is subject to change. This Program Requirements Guide is not a contract.**
Clinical Sports Massage  
AAS DEGREE

Program Overview
The AAS in Clinical Sports Massage builds upon the existing Massage Therapy Certificate Program. Graduates perform thorough patient assessments and develop care plans based on assessments. Students implement care plans using carefully selected techniques for the given disorders, including recommended exercises to the client. Clinical Sports Massage techniques include, but are not limited to, friction therapy, trigger point therapy, active and passive engagement techniques, scraping techniques, fascial release techniques, manual lymphatic drainage and advanced stretching modalities.

Career Opportunities
Huge growth in age group sports such as triathlon, running, skiing, soccer, rugby and hockey, have led to more people returning to a sporting lifestyle than ever before. The direct correlation is an increase in injuries and/or need for prevention of injury. With increased proven results utilizing various soft tissue manual therapies, more people are relying on well trained Clinical Sports Massage Therapists to alleviate and/or prevent injury. There is a large demand for Clinical Sports Massage Therapists in rehabilitation facilities, sports chiropractic offices, onsite sports events, health clubs, and with self-employment. The Clinical Sports Massage Advanced Certificate qualifies graduates to apply for board certification. All classes within this curriculum qualify as continuing education for massage therapy.

Program Outcomes
1. Graduates will provide application of manual techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take the national certification exam in massage therapy.
3. Graduates will be prepared for employment in an entry-level capacity.
4. Graduates will be prepared to take the Board Certification through the National Certification Board for Therapeutic Massage & Bodywork (NCTMB).
5. Graduates will be prepared for employment in a sports and rehabilitation environment.

Program Faculty
Jeremy Sartain  jeremy.sartain@saintpaul.edu
Nick Bohrer  nick.bohrer@saintpaul.edu

Day and Evening Classes
Classes may be offered day and evening.

Textbook and Supply Costs
Students should expect to spend approximately $1,900.00 for books and supplies. (Does not include massage table.) This cost is in addition to tuition and fees.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below. For more information please go to saintpaul.edu/Transfer.

Clinical Sports Massage AAS
BA  Exercise Science (Traditional & Cohort)  Concordia University, St. Paul
BA  Health Care Administration  Concordia University, St. Paul
BA  Individualized Studies  Metropolitan State University
BA  Kinesiology  Concordia University
BAS  Healthcare Leadership & Administration  Winona State University
BS  Healthcare and Human Service Management  Saint Mary’s University-Twin Cities Campus

Program Requirements
☐ Check off when completed
☐ All technical courses (HLTH, MASS) must be successfully completed with a grade of “C” or better.

Course  Cr
☐ HLTH 1418 Somatic Practitioner: Business & Ethics  2
☐ HLTH 1421 Anatomy & Physiology for Somatic Practitioners  4
☐ HLTH 1422 Health and 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
☐ A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum
☐ MASS 1423 Advanced Clinical Sports Massage Techniques  5
☐ MASS 1480 Massage Therapy Practicum  4
☐ MASS 1490 Clinical Massage Internship  5
Subtotal  50

General Education/MnTC Requirements  Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication  7
ENGL 1711 Composition  4
COMM 17XX  3
☐ Goal 3: Natural Sciences  3
BIOL 1760 Nutrition  3 (recommended)
☐ Goal 5: History, Social Science and Behavioral Sciences  3
PSYC 1750 Introduction to Health Psychology  3 (recommended)
☐ Goal 6: Humanities and Fine Arts  3
General Education Requirements  16

Total Program Credits  66

Program Start Dates
Fall, Spring, Summer

Course Sequence
For part-time or customized course sequence contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
HLTH 1418 Somatic Practitioner: Business & Ethics  2
HLTH 1421 Anatomy and Physiology for Somatic Practitioners  4
MASS 1400 Introduction to Therapeutic Massage  4
MASS 1421 Massage Spa Techniques  2
MASS 1422 Massage Clinical Techniques  4
Total Semester Credits  16

Second Semester
HLTH 1425 Clinical Applications in Kinesiology  3
HLTH 1465 Functional Holistic Nutrition  4
A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum
MASS 1480 Massage Therapy Practicum  4
Goal 5: PSYC 1750 Introduction to Health Psychology (recommended)  3
Total Semester Credits  14

Third Semester
MASS 1423 Advanced Clinical Sports Massage  5
HLTH 1422 Health and Wellness Coaching  4
HLTH 1485 Therapeutic Exercise  5
HLTH 1900 Pathology for the Somatic Practitioner  4
Total Semester Credits  16

Fourth Semester
MASS 1490 Clinical Massage Internship  5
Goal 1: ENGL 1711 Composition  4
Goal 1: COMM 17XX  3
Goal 3: BIOL 1760 Nutrition (recommended)  3
Goal 6: Humanities and Fine Arts  3
Total Semester Credits  18

Total Program Credits  66

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Clinical Sports Massage  CERTIFICATE

Program Overview
Designed for Massage Therapists who have graduated from a 600 hour or more program, the Clinical Sports Massage Advanced Certificate builds on basic foundational massage therapy skills. Graduates of the Clinical Sports Massage Advanced Certificate 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. Clinical Sports Massage techniques include, but are not limited to, friction therapy, trigger point therapy, active and passive engagement techniques, scraping technique, cupping with drag, fascial release techniques, manual lymphatic drainage and advanced stretching modalities.

Career Opportunities
Huge growth in age group sports such as triathlon, running, skiing, soccer, rugby and hockey, have lead to more people returning to a sporting lifestyle than ever before. The direct correlation is an increase in injuries and/or need for prevention of injury. With increased proven results utilizing various soft tissue manual therapies, more people are relying on well trained Clinical Sports Massage Therapists to alleviate and/or prevent injury. There is a large demand for Clinical Sports Massage Therapists in rehabilitation facilities, sports chiropractic offices, onsite sports events, health clubs, and with self-employment. The Clinical Sports Massage Certificate qualifies graduates to apply for the National Certification for Advanced Practice (NCAP) exam. All classes within this curriculum qualify as continuing education for massage therapy.

Program Outcomes
1. Graduates will provide application of manual techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take the national certification exam in massage therapy.
3. Graduates will be prepared for employment in an entry-level capacity.
4. Graduates will be prepared to take the Board Certification through the National Certification Board for Therapeutic Massage & Bodywork (NCTMB). Faculty instructor permission required. Contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Note that admitted students do not need to be nationally certified but the program previously completed must qualify for national certification.
5. Graduates will be prepared for employment in a sports and rehabilitation environment.

Program Requirements
☐ Check off when completed
☐ All technical courses (HLTH, MASS) must be successfully completed with a grade of "C" or better.

Course  Cr
☐ HLTH 1422 Health and 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

Total Program Credits .......................... 23

Minimum Program Entry Requirements
Completion of a minimum 600 hour massage therapy program that is recognized by the National Certification Board for Therapeutic Massage and Bodywork (NCTMB). Faculty instructor permission required. Contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Note that admitted students do not need to be nationally certified but the program previously completed must qualify for national certification.

Degree option may have a greater requirement than this certificate.
Program Requirements Guide

Massage Therapy CERTIFICATE

Program Overview
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.

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, Proprioceptive Neuromuscular Facilitation (PNF) and Active Isolated Stretching (AIS) 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.

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. Licensing or certification exams are independent of graduation requirements.

Program Outcomes
1. Graduates will provide application of manual techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take the national certification exam in massage therapy.
3. Graduates will be prepared for employment in an entry-level capacity.

Program Faculty
Jeremy Sartain jeremy.sartain@saintpaul.edu
Nick Bohrer nick.bohrer@saintpaul.edu

Day and Evening Classes
Day and evening options are available to complete the program.

Textbook and Supply Costs
Students should expect to spend approximately $900.00 for books and supplies. (Does not include massage table.) This cost is in addition to tuition and fees.

Program Requirements
- Check off when completed
- All technical courses (HLTH, MASS) must be successfully completed with a grade of "C" or better.

Course
- 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
- A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum
- MASS 1480 Massage Therapy Practicum .................. 4
- General Education Requirement .................. 3
- Goals 1-10: Minnesota Transfer Curriculum
- PSYC 1750 Introduction to Health Psychology (recommended)

Total Program Credits .................. 30

Program Start Dates
Fall, Spring, Summer

Course Sequence
For part-time or customized course sequence contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
HLTH 1418 Somatic Practitioner: Business & Ethics .................. 2
HLTH 1421 Anatomy and Physiology for Somatic Practitioners .................. 4
MASS 1400 Introduction to Therapeutic Massage .................. 4
MASS 1421 Massage Spa Techniques .................. 2
MASS 1422 Massage Clinical Techniques .................. 4
Total Semester Credits .................. 16

Second Semester
HLTH 1425 Clinical Applications in Kinesiology .................. 3
HLTH 1465 Functional Holistic Nutrition .................. 4
A CPR course/certificate must be completed prior to taking MASS 1480 Massage Therapy Practicum
MASS 1480 Massage Therapy Practicum .................. 4
Goal 5: PSYC 1750 Introduction to Health Psychology (recommended) .................. 3
Total Semester Credits .................. 14
Total Program Credits .................. 30

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Massage Therapy Certificate
BA Kinesiology
Concordia University

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Degree option may have a greater requirement than this certificate.

Information is subject to change.
This Program Requirements Guide is not a contract.

197C (7085)
Program Overview

Sport and Exercise Sciences Professionals instruct clientele in the betterment of their health through an integrated approach using sound knowledge of appropriate sciences. Functional training techniques, aerobic exercise and advanced stretching modalities (such as Proprioceptive Neuromuscular Facilitation (PNF) and Active Isolated Stretching (AIS)) are implemented appropriately based on initial and continuous feedback and testing. Graduates from the program perform patient assessments and build customized fitness, wellness and nutrition plans for individuals.

Career Opportunities

The US Bureau of Labor and Statistics listed Sport, Exercise and Fitness as one of the top overall job openings requiring Post-Secondary training. Employment is expected to grow by 21 percent from 2014-2024 much faster than average for all occupations. As businesses and insurance organizations continue to recognize the benefits of health and fitness programs for their employees, corporate wellness program employment will continue to rise increasing the need for workers in these areas.

Program Outcomes

1. Graduates will provide application of Fitness Coaching techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take a national exam for Certification in Personal Training/Fitness Coaching.
3. Graduates will be prepared to take the National Academy of Sports Medicine (NASM) exam for Corrective Exercise Specialist (CES).
4. Graduates may obtain membership with the National Association of Nutrition Professionals (NANP).
5. Graduates will be prepared to perform Health & Wellness Coaching Services.
6. Graduates will be prepared to take the American Council on Exercise (ACE) exam for Health Coach Certification.

Program Requirements

Check off when completed
☐ All technical courses (HLTH) must be successfully completed with a grade of “C” or better.

Course Cr
☐ HLTH 1418 Somatic Practitioner: Business & Ethics .................. 2
☐ HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .......... 4
☐ HLTH 1422 Health and Wellness Coaching .................. 4
☐ HLTH 1425 Clinical Applications in Kinesiology .................. 3
☐ HLTH 1465 Functional Holistic Nutrition .................. 4
☐ HLTH 1485 Therapeutic Exercise .................. 5
☐ HLTH 1610 Sport and Exercise Coaching .................. 5
☐ HLTH 1620 Advanced Concepts in Training .................. 5
☐ HLTH 1630 Functional Exercise Physiology .................. 3
☐ HLTH 1690 Sport and Exercise Sciences Internship .................. 5
☐ HLTH 1900 Pathology for the Somatic Practitioner .................. 4

Subtotal .................. 44

General Education/MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ................................. 7
☐ ENGL 1711 Composition 1 – 4 cr
☐ COMM 17XX – 3 cr
☐ Goal 2: Natural Sciences .................. 3
☐ BIOL 1760 Nutrition – 3 cr (recommended)
☐ Goal 3: History, Social Science and Behavioral Sciences .................. 3
☐ PSYC 1750 Introduction to Health Psychology – 3 cr (recommended)
☐ Goal 6: Humanities and Fine Arts .................. 3
☐ General Education Requirements ................................. 16

Total Program Credits .................. 60

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

First Semester

HLTH 1418 Somatic Practitioner: Business & Ethics 2
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner 4
HLTH 1422 Health and Wellness Coaching 4
HLTH 1610 Sport and Exercise Coaching 5
Total Semester Credits 15

Second Semester

HLTH 1425 Clinical Applications in Kinesiology 3
HLTH 1485 Therapeutic Exercise 5
HLTH 1620 Advanced Concepts in Training 5
Total Semester Credits 13

Third Semester

HLTH 1465 Functional Holistic Nutrition 4
HLTH 1630 Functional Exercise Physiology 3
HLTH 1690 Sport and Exercise Sciences Internship 5
HLTH 1900 Pathology for the Somatic Practitioner 4
Goal 5: PSYC 1750 Introduction to Health Psychology (recommended) 3
Total Semester Credits 19

Fourth Semester

Goal 1: ENGL 1711 Composition 1 4
Goal 1: COMM 17XX 3
Goal 3: BIOL 1760 Nutrition (recommended) 3
Goal 6: Humanities and Fine Arts 3
Total Semester Credits 13

Total Program Credits 60

Information is subject to change.

This Program Requirements Guide is not a contract.
Program Overview

Sport and Exercise Sciences Professionals instruct clientele in the betterment of their health through an integrated approach using sound knowledge of appropriate sciences. Functional training techniques, aerobic exercise and advanced stretching modalities (such as Proprioceptive Neuromuscular Facilitation (PNF) and Active Isolated Stretching (AIS)) are implemented appropriately based on initial and continuous feedback and testing. Graduates from the program perform patient assessments and build customized fitness, wellness and nutrition plans for individuals.

Career Opportunities

The US Bureau of Labor and Statistics listed Sport, Exercise and Fitness as one of the top overall job openings requiring Post-Secondary training. Employment is expected to grow by 21 percent from 2014-2024 much faster than average for all occupations. As businesses and insurance organizations continue to recognize the benefits of health and fitness programs for their employees, corporate wellness program employment will continue to rise increasing the need for workers in these areas.

Program Outcomes

1. Graduates will provide application of Fitness Coaching techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take a national exam for Certification in Personal Training/ Fitness Coaching.
3. Graduates will be prepared to take the National Academy of Sports Medicine (NASM) exam for Corrective Exercise Specialist (CES).
4. Graduates may obtain membership with the National Association of Nutrition Professionals (NANP).
5. Graduates will be prepared to perform Health & Wellness Coaching Services.
6. Graduates will be prepared to take the American Council on Exercise (ACE) exam for Health Coach Certification.

Textbook and Supply Costs

Students should expect to spend approximately $1,000.00 for books and supplies. This cost is in addition to tuition and fees.

Program Requirements

☐ Check off when completed
☐ All technical courses (HLTH) must be successfully completed with a grade of “C” or better.

Course
☐ HLTH 1418 Somatic Practitioner: Business & Ethics ........................................ 2
☐ HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .......................... 4
☐ HLTH 1422 Health and Wellness Coaching .......................................................... 4
☐ HLTH 1425 Clinical Applications in Kinesiology .............................................. 3
☐ HLTH 1465 Functional Holistic Nutrition ............................................................... 4
☐ HLTH 1485 Therapeutic Exercise .......................................................... 5
☐ HLTH 1610 Sport and exercise Coaching ........................................................... 5
☐ HLTH 1620 Advanced Concepts in Training ...................................................... 5
☐ HLTH 1630 Functional Exercise Physiology ....................................................... 3
☐ HLTH 1690 Sport and exercise Sciences Internship ............................................. 5
☐ HLTH 1900 Pathology for the Somatic Practitioner ............................................ 4
Subtotal .......................................................... 44

General Education/MnTC Requirements
☐ Goal 1: COMM 17XX .......................................................... 3
☐ Goals 1-10: Minnesota Transfer Curriculum ................................................................
Psych 1750 Introduction to Health Psychology (recommended) ............................ 3
General Education Requirements .................................................. 6
Total Program Credits .......................................... 50

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Arithmetic: Score of 20+

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this diploma.

Program Start Dates

Fall, Spring, Summer

Course Sequence

For part-time or customized course sequence contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester

HLTH 1418 Somatic Practitioner: Business & Ethics ........................................ 2
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner ........................ 4
HLTH 1422 Health and Wellness Coaching .......................................................... 4
HLTH 1610 Sport and Exercise Coaching ........................................................... 5
Total Semester Credits .......................................................... 15

Second Semester

HLTH 1425 Clinical Applications in Kinesiology .............................................. 3
HLTH 1485 Therapeutic Exercise .......................................................... 5
HLTH 1600 Sport and Exercise Sciences Internship ........................................... 5
Goal 5: PSYC 1750 Introduction to Health Psychology (recommended) ............ 3
Total Semester Credits .......................................................... 19

Total Program Credits .......................................... 50

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/transfer.

Sport and Exercise Sciences Diploma

BA Kinesiology
Concordia University
Sport and Exercise Sciences CERTIFICATE

Program Overview
Sport and Exercise Sciences Professionals instruct clientele in the betterment of their health through an integrated approach using sound knowledge of appropriate sciences. Functional training techniques, aerobic exercise and advanced stretching modalities (such as Proprioceptive Neuromuscular Facilitation (PNF) and Active Isolated Stretching (AIS)) are implemented appropriately based on initial and continuous feedback and testing. Graduates from the program perform patient assessments and build customized fitness, wellness and nutrition plans for individuals.

Career Opportunities
The US Bureau of Labor and Statistics listed Sport, Exercise and Fitness as one of the top overall job openings requiring Post-Secondary training. Employment is expected to grow by 21 percent from 2014-2024 much faster than average for all occupations. As businesses and insurance organizations continue to recognize the benefits of health and fitness programs for their employees, corporate wellness program employment will continue to rise increasing the need for workers in these areas.

Program Outcomes
1. Graduates will provide application of Fitness Coaching techniques to positively contribute to the well-being of the client in a safe and skillful manner.
2. Graduates will be prepared to take a national exam for Certification in Personal Training/Fitness Coaching.
3. Graduates will be prepared to take the National Academy of Sports Medicine (NASM) exam for Corrective Exercise Specialist (CES).

Licensing or certification exams are independent of graduation requirements.

Program Faculty
Jeremy Sartain jeremy.sartain@saintpaul.edu

Day and Evening Classes
Classes may be offered day and evening.

Textbook and Supply Costs
Students should expect to spend approximately $1,000.00 for books and supplies. This cost is in addition to tuition and fees.

Program Requirements
☐ Check off when completed
☐ All technical courses (HLTH) must be successfully completed with a grade of “C” or better.

Course Cr
☐ HLTH 1418 Somatic Practitioner: Business and Ethics .............................. 2
☐ HLTH 1421 Anatomy and Physiology for the Somatic Practitioner .................. 4
☐ HLTH 1422 Health and Wellness Coaching ........................................... 4
☐ HLTH 1425 Clinical Applications in Kinesiology .................................. 3
☐ HLTH 1465 Functional Holistic Nutrition ............................................ 4
☐ HLTH 1485 Therapeutic Exercise ...................................................... 5
☐ HLTH 1610 Sport and Exercise Coaching ........................................... 5

Subtotal ........................................... 27

General Education/MnTC Requirements Cr
☐ Goals 1-10: Minnesota Transfer Curriculum
PSYC 1750 Introduction to Health Psychology (recommended) .................. 3
General Education Requirements .................. 3

Total Program Credits .................. 30

Program Start Dates
Fall, Spring, Summer

Course Sequence
For part-time or customized course sequence contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
HLTH 1418 Somatic Practitioner: Business & Ethics .... 2
HLTH 1421 Anatomy & Physiology for the Somatic Practitioner .................. 4
HLTH 1422 Health and Wellness Coaching .................. 4
HLTH 1610 Sport and Exercise Coaching .................. 5
Total Semester Credits ........................................... 15

Second Semester
HLTH 1425 Clinical Applications in Kinesiology ........ 3
HLTH 1465 Functional Holistic Nutrition .................. 4
HLTH 1485 Therapeutic Exercise .................. 5
Goal 5: PSYC 1750 Introduction to Health Psychology (recommended) .................. 3
Total Semester Credits ........................................... 15

Total Program Credits .................. 30

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Overview
Yoga is recognized by health professionals worldwide as an effective way to increase flexibility, develop strength and reduce stress. This program focuses on four key aspects of yoga: alignment and form of the yoga postures, history and philosophy of yoga, relaxation and meditation, and teaching techniques. This program is recognized by the Yoga Alliance and upon completion qualifies graduates to be 200 hour Registered Yoga Teachers.

Career Opportunities
Yoga instructors are listed under the main category of fitness workers with the Department of Labor. Training for yoga instructors is ever changing. According to the U.S. 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 the 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 demonstrate a clear understanding of alignment within the standing poses, seated poses, inversions, backbends, forward bends, twists and arm-balances covered in this class.
2. Graduates will demonstrate coordination of breath and movement and the correct use of the diaphragm in yogic breathing.
3. Graduates will demonstrate an understanding of the scientific evidence behind the effects of stress and relaxation.
4. Graduates will identify the mental, emotional, and physical benefits of a consistent mindfulness/meditation practice.
5. Graduates will demonstrate the ability to plan a sequence of postures to lengthen the spine and open the major joints of the body to support relaxation and healing.
6. Graduates will meet the Yoga Alliance Standards of Yoga Teacher Training.

Program Faculty
Jeremy Sartain   jeremy.sartain@saintpaul.edu

Equipment Needed
Students should expect to bring to class a yoga mat and blanket, yoga strap and blocks if necessary. The blanket is used to sit on and should be a woven serape or a wool yoga blanket.

Program Length
Full-time students can complete the program in one semester.

Part-time Options
For part-time options, discuss with program faculty.

Program Requirements
☐ Check off when completed

Course   Cr
☐ HLTH 1421 Anatomy and Physiology for the Somatic Practitioner ............... 4
☐ HLTH 1454 Yoga Postures/Asanas .................. 3
☐ HLTH 1458 Relaxation Techniques .................. 3
☐ HLTH 1459 Yoga Asana/Teaching Methodology .... 3
☐ HLTH 1541 Yoga History/Philosophy ............... 3

Total Program Credits ................................ 16

This program is registered with Yoga Alliance and meets the Yoga Alliance Standards.

Program Start Dates
Fall, Spring, Summer

Course Sequence
For part-time or customized course sequence contact Jeremy Sartain at 651.846.1619 or email jeremy.sartain@saintpaul.edu.

Not all courses are offered each semester; a selection of courses is offered summer term. Students must take HLTH 1454 before taking HLTH 1459.

Students should consult with the Program Faculty each semester.

First Semester
HLTH 1421 Anatomy and Physiology for the Somatic Practitioner ............... 4
HLTH 1454 Yoga Postures/Asanas .................................. 3
HLTH 1458 Relaxation Techniques .................................. 3
HLTH 1459 Yoga Asana/Teaching Methodology .... 3
HLTH 1541 Yoga History/Philosophy ............... 3

Total Program Credits ................................ 16

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
Service Programs

Child Development
- Child Development Careers AS Degree (60 Credits)  . . . . 132
- Child Development Careers ASL AS Degree (60 Credits)  . . . . 134
- Child Development Careers AAS Degree (60 Credits)  . . . . 136
- Child Development Careers Diploma (32 Credits)  . . . . 138
- Child Development Careers Certificate (16 Credits)  . . . . 139

Cosmetology
- Cosmetology AAS Degree (70 Credits) . . . . . . . . . . . . . . . 140
- Cosmetology Diploma (57 Credits)  . . . . . . . . . . . . . . . 142
- Nail Care Technician Certificate (16 Credits)  . . . . 144

Culinary Arts
- Culinary Arts AAS Degree (68 Credits)  . . . . . . . . . . . . . . . 145
- Culinary Arts Diploma (58 Credits)  . . . . . . . . . . . . . . . 147
- Culinary Foundations Certificate (18 credits)  . . . . 149
- Pastry and Baking Certificate (17 credits)  . . . . 150
- Wine Professional Certificate (9 Credits)  . . . . 151

Sign Language Interpreter/Transliterator
- Sign Language Interpreter/Transliterator AAS Degree (67 Credits)  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 152
Child Development Careers AS DEGREE

Program Overview
This program is intended primarily for students who plan to transfer to another college or university to complete a bachelor’s degree in Early Childhood or related field. It also prepares individuals for employment as a Teacher in a variety of early childhood settings. Students will learn about child development, guidance, health and safety, cultural sensitivity, professional relations, and curriculum planning, as well as liberal arts education. Internship opportunities are provided which allow students to apply their skills and knowledge in a practical experience. All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate. 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
Graduates of the Child Development AS program may seek further education to earn a degree in early childhood education, early childhood special education, child development and family studies, psychology, or social work, but will also qualify to work at a child care center or preschool program, a family child care home or nanny, as well as a teacher in a Head Start program, a teacher assistant or education assistant in the public schools, Early Childhood Family Education, Early Childhood Special Education, or Child Life Assistant (hospital setting). If students go on for more education, the career opportunities (and pay scale) continue to increase.

The demand for trained child development professionals is increasing as more parents seek quality care and educational programs for their children. Our job placement rate is well over 95% and the Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2026.

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 knowledge and skills in positive child guidance techniques.
4. Graduates will demonstrate the knowledge and skills in positive family, community, and staff relations.
5. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.
6. Graduates will have hands-on training in a variety of Child Development settings.
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.

Program Faculty
Students should consult with the Program Faculty each semester.
Janet Massa janet.massa@saintpaul.edu
Kelly McKown kelly.mckown@saintpaul.edu

Part-time/Full-time Options
Evening, Saturday, and online courses are also available.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Child Development Careers AS
BA Child Development
Concordia University, St. Paul
BA Family Science
Concordia University, St. Paul
BA Health Care Administration
Concordia University, St. Paul
BAS Early Childhood Studies
Metropolitan State University
BS Healthcare and Human Service Management
Saint Mary’s University-Twin Cities Campus
BS Human Development & Family Studies
University of Wisconsin-Stout

Program Requirements
☐ Check off when completed

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 1610 Observation and Assessment ............... 3
☐ Not offered every semester, see Faculty
☐ CDEV 1640 Curriculum Planning ............... 3
☐ Not offered every semester, see Faculty
☐ CDEV 1910 Practicum 1 ...................... 3
☐ CDEV 2320 Children with Differing Abilities (Fall) .... 3
☐ CDEV 2600 Organizational Leadership and Management (Spring) ............... 2
Subtotal ........................................ 30

General Education/MnTC Requirements
Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area.
☐ Goal 1: Communication ...................... 7
☐ ENGL 1711 Composition 1 – 4 cr
☐ COMM 17XX – 3 cr
☐ Goal 3 or Goal 4 ............................ 3
☐ Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science and Behavioral Sciences ............... 4
☐ ANTH 1710, PSYC 1710, SOCI 1710, OR SOCI 1760 (recommended)
☐ Goal 6: Humanities and Fine Arts ............... 3
☐ Goals 1-10 of the Minnesota Transfer Curriculum . 13
Select a minimum of 13 additional credits
General Education Requirements ............... 30
Total Program Credits ...................... 60

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

2475 (7131)
Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

First Semester
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 & Curriculum .......................... 4
Total Semester Credits .................................................. 16

All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate. CDEV 1200, 1210, 1220, 1230, and 1240 must be completed before taking CDEV courses.

Second Semester
CDEV 1610 Observation and Assessment ................................. 3
CDEV 1640 Curriculum Planning ............................................ 3
Goal 1: ENGL 1711 Composition 1 ................................. 4
Goal 1: COMM 17XX .................................................. 3
Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning .................................. 3
Total Semester Credits .................................................. 16

Third Semester
CDEV 1910 Practicum 1 .................................................. 3
CDEV 2320 Children with Differing Abilities .............................. 3
Goal 5: History, Social Sciences and Behavioral Sciences ......... 3
Goal 6: Humanities and Fine Arts .......................................... 3
Total Semester Credits .................................................. 12

Fourth Semester
CDEV 2600 Organizational Leadership and Management ............ 2
Goals 1-10: Minnesota Transfer Curriculum ......................... 14
Total Semester Credits .................................................. 16

Total Program Credits ................................................. 60
Program Requirements Guide 2018 - 2019

Child Development Careers ASL AS DEGREE

Program Overview
This program is intended primarily for students who plan to transfer to another college or university to complete a bachelor’s degree in Early Childhood or related field. Students will learn about child development, guidance, health and safety, cultural sensitivity, and professional relations, as well as liberal arts education. Lab and Practicum opportunities are provided which allow students to apply their skills and knowledge in a practical experience. All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate.

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
Graduates of the Child Development Careers ASL AS Degree program may seek further education to earn a degree in early childhood education, early childhood special education, child development and family studies, psychology, or social work, but will also qualify to work at a child care center or preschool program, a family child care home or nanny, as well as a teacher in a Head Start program, a teacher assistant or education assistant in the public schools, Early Childhood Family Education, Early Childhood Special Education, or Child Life Assistant (working with children in a hospital setting).

Since this degree has a focus on using ASL in an early childhood setting, it increases employability for our graduates. If students go on for more education, the career opportunities (and pay scale) also increase. The demand for trained child development professionals continues to increase as more parents seek quality care and educational programs for their children. Our job placement rate is well over 95% and the Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2026.

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 knowledge and skills in positive child guidance techniques.
4. Graduates will demonstrate the knowledge and skills in positive family, community, and staff relations.
5. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.
6. Graduates will have hands-on training in a variety of Child Development settings.
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.

Program Faculty
Students should consult with the Program Faculty each semester.
Janet Massa janet.massa@saintpaul.edu
Kelly McKown kelly.mckown@saintpaul.edu

Part-Time/Full-time Options
Part-time and full-time options are available. Evening, Saturday, and online courses are also available.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Information is subject to change.
This Program Requirements Guide is not a contract.

Program Requirements

Check off when completed

Goal 1: Communication .......................... 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr

Goal 3 or Goal 4 ............................ 3
Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning

Goal 5: History, Social Science and Behavioral Sciences .................. 4
ANTH 1710, PSYC 1710, SOCI 1710, or
SOCI 1760 (recommended)
Goal 6: Humanities and Fine Arts ............ 3
Goal 8: Global Perspective ..................... 6
ASLS 1413 American Sign Language 3
ASLS 1414 American Sign Language 4

Goals 1-10 of the Minnesota Transfer Curriculum List for each Goal Area

Select a minimum of 7 additional credits

General Education Requirements ................... 30
Total Program Credits .............................. 60

See back of this guide for Course Sequence

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+ or grade of “C” or better in MATH 0745

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Child Development Careers ASL  AS DEGREE  (continued)

Program Requirements Guide  2018 - 2019

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
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
ASLS 1411 American Sign Language 1 ............. 3
Total Semester Credits ........................................... 15

All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate. CDEV 1200, 1210, 1220, and 1230 must be completed before taking other CDEV courses.

Second Semester
CDEV 1240 Learning Environment and Curriculum ... 4
ASLS 1412 American Sign Language 2 ............. 3
Goal 1: ENGL 1711 Composition 1 ................ 4
Goal 1: COMM 17XX ........................................... 3
Total Semester Credits ............................................ 14

Third Semester
CDEV 2320 Children with Differing Abilities (Fall) .... 3
CDEV 2560 Language & Literature Learning Experiences (Fall) .............. 3
ASLS 1413 American Sign Language 3 ............. 3
Goal 3: Natural Sciences OR
  Goal 4: Mathematical/Logical Reasoning . . . . . . . . . . . . . . . . . . . . . . . 3
Goal 5: History, Social Sciences and Behavioral Sciences ..................... 3
Total Semester Credits ............................................ 15

Fourth Semester
CDEV 2599 Practicum 1: Special Settings/ASL ....... 2
ASLS 1414 American Sign Language 4 ............. 3
Goal 6: Humanities and Fine Arts ................. 3
Goals 1-10: Minnesota Transfer Curriculum ......... 8
Total Semester Credits ............................................ 16

NOTE: ASLS 1413 & ASLS 1414 are counted towards fulfilling MnTC Electives

Total Program Credits ............................................. 60
Child Development Careers AAS DEGREE

Program Overview
This program is designed to prepare individuals for employment as a teacher in a variety of early childhood settings. Students will learn how to promote and communicate knowledge of child development; create healthy, respectful and challenging learning environments; create and maintain respectful and supportive relationships with children, families, staff, and community members; use observation skills to enhance teaching; and design and implement developmentally and culturally appropriate activities and curriculum. Lab and Practicum opportunities are provided which allow students to apply their skills and knowledge in a practical experience. All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate.

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
Graduates of the Child Development AAS program will qualify to teach at a child care center, preschool program, before/after-school program, a family child care home or nanny, as well as a Lead Teacher in a Head Start program, a teacher assistant or education assistant (paraprofessional) in the public schools, Early Childhood Family Education, Early Childhood Special Education, or Child Life Assistant (in a hospital setting). The AAS degree meets Minnesota Department of Human Services educational requirements for child care providers. The demand for trained child development professionals continues to increase as more parents seek quality care and educational programs for their children. Our job placement rate is well over 95% and the Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2026.

Program Outcomes
1. Graduates will demonstrate knowledge of child safety, health, and nutrition.
2. Graduates will demonstrate knowledge on the principles of child development and developmentally appropriate practices.
3. Graduates will demonstrate knowledge and skills in positive child guidance techniques.
4. Graduates will demonstrate the knowledge and skills in positive family, community, and staff relations.
5. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.
6. Graduates will have hands-on training in a variety of Child Development settings.
7. Graduates will possess the knowledge and skills for immediate employment in the Child Development field.

Program Requirements
- Check off when completed

Course
- CDEV 1200 Introduction to Early Childhood Education
- CDEV 1240 Organizational Leadership and Management
- CDEV 1640 Curriculum Planning
- CDEV 1910 Practicum
- CDEV 2230 Children with Differing Abilities (Fall)
- CDEV 2500 STEM for ECE
- CDEV 2560 Language & Literature Learning Experiences OR CDEV 2550 STEM for ECE
- CDEV 2580 Creative Development & Learning Experiences
- CDEV 2590 Social-Emotional Development and Learning Experiences
- CDEV 2597 Special Topics

Electives: Choose a minimum of 3 credits from the following Technical Electives:
- CDEV 2520 The Peaceful Classroom
- CDEV 2530 Children with Challenging Behaviors
- CDEV 2550 STEM for ECE
- CDEV 2560 Language & Literature Learning Experiences
- CDEV 2570 Working with Diverse Children and Families
- CDEV 2580 Creative Development & Learning Experiences
- CDEV 2590 Social-Emotional Development and Learning Experiences
- CDEV 2597 Special Topics

General Education/MnTC Requirements
- Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
- Goal 1: Communication
- ENGL 1711 Composition 1 – 4 cr
- COMM 17XX – 3 cr
- Goal 2: Scientific Reasoning
- Goal 3: Natural Sciences OR
- Goal 4: Mathematical/Logical Reasoning
- Goal 5: History, Social Science and Behavioral Sciences
- SOCI 1720 Social Problems OR SOCI 1730 Sociology of Families & Relationships (recommended)
- Goal 6: Humanities and Fine Arts
- Goals 1-10 of the Minnesota Transfer Curriculum
- Select a minimum of 4 additional credits

Total Program Credits
- 60

Program Faculty
Students should consult with the Program Faculty each semester.
- Janet Massa janet.massa@saintpaul.edu
- Kelly McKown kelly.mckown@saintpaul.edu

Part-time/Full-time Options
Part-time and full-time options are available. Evening, Saturday, and online courses are also available.

Course Sequence
The course sequence on the back of this guide is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Child Development Careers AAS

BA / Child Development
Concordia University, St. Paul

BA / Family Science
Concordia University, St. Paul

BA / Health Care Administration
Concordia University, St. Paul

BAS / Early Childhood Studies
Metropolitan State University

BS / Healthcare and Human Service Management
Saint Mary’s University-Twin Cities Campus

BS / Human Development & Family Studies
University of Wisconsin-Stout

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Start Dates
Fall, Spring, Summer

Course Sequence
The course sequence is recommended for a full-time student; however, this sequence is not required.

Not all courses are offered each semester; a selection of courses is offered summer term.
Students should consult with the Program Faculty each semester.

First Semester
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
Total Semester Credits 16

All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate. CDEV 1200, 1210, 1220, 1230, and 1240 must be completed before taking other CDEV courses.

Second Semester
CDEV 1610 Observation and Assessment 3
Not offered every semester, see Faculty
CDEV 1640 Curriculum Planning 3
Not offered every semester, see Faculty
Goal 1: ENGL 1711 Composition 1 4
Goal 1: COMM 17XX 3
Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning 3
Total Semester Credits 16

Third Semester
CDEV 1910 Practicum 1 3
CDEV 2320 Children with Differing Abilities (fall only) 3
Not offered every semester, see Faculty
CDEV Technical Elective 3
Goal 5: History, Social Sciences and Behavioral Sciences 3
Goal 6: Humanities and Fine Arts 3
Total Semester Credits 15

Fourth Semester
CDEV 2560 Language & Literature Learning Experiences OR
CDEV 2550 STEM for ECE 3
Not offered every semester, see Faculty
CDEV 2600 Organizational Leadership & Management (spring only) 2
CDEV 2620 Practicum 2 4
Not offered every semester, see Faculty
Goals 1-10: Minnesota Transfer Curriculum 4
Total Semester Credits 13

Total Program Credits 60
### Program Overview
This program is designed to prepare individuals for employment in entry-level early childhood education positions. Students will learn about child development, guidance, health and safety, professional relations, and strategies for promoting learning in young children. Lab and practicum opportunities are provided which allow students to apply their skills and knowledge in a practical experience. All students must meet all reading and writing program entry requirements prior to entering courses beyond the Certificate.

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
Graduates of the Child Development Diploma program will qualify to work at a child care center, preschool program, before/after-school program, a family child care home or nanny. This diploma meets Minnesota Department of Human Services educational requirements for child care providers. The demand for trained child development professionals continues to increase as more and more parents seek quality care and educational programs for their children. Our job placement rate is well over 95% and the Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2026.

### 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 knowledge and skills in positive child guidance techniques.
4. Graduates will demonstrate the knowledge and skills in positive family, community, and staff relations.
5. Graduates will demonstrate the knowledge and skills in developing and implementing early childhood curriculum.

### Program Faculty
Students should consult with the Program Faculty each semester.

- Janet Massa janet.massa@saintpaul.edu
- Kelly McKown kelly.mckown@saintpaul.edu

### Part-time/Full-time Options
Part-time and full-time options are available. Evening, Saturday, and online courses are also available.

### Program Requirements

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>CDEV 1200 Introduction to Early Childhood Education</td>
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<tr>
<td>CDEV 1210 Child Growth and Development</td>
<td>3</td>
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<tr>
<td>CDEV 1220 Health, Safety and Nutrition</td>
<td>3</td>
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<tr>
<td>CDEV 1230 Guiding Children’s Behavior</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1240 Learning Environment and Curriculum</td>
<td>4</td>
</tr>
<tr>
<td>CDEV 1610 Observation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1640 Curriculum Planning</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1910 Practicum 1</td>
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<tr>
<td>Total Program Credits</td>
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<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<tr>
<td>Goal 1: Communication</td>
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<tr>
<td>ENGL 1711 Composition</td>
<td>1</td>
</tr>
<tr>
<td>Goal 5: History, Social Science and Behavioral Sciences</td>
<td>3</td>
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<tr>
<td>SOCI 1720 Social Problems OR</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1730 Sociology of Families and Relationships (recommended)</td>
<td></td>
</tr>
<tr>
<td>General Education Requirements</td>
<td>7</td>
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<tr>
<td>Total Program Credits</td>
<td>32</td>
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</tbody>
</table>

### Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ on Reading Comprehension or grade of “C” or better in READ 0722

**Writing:** Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922

**Arithmetic:** Score of 20+

**Assessment Results and Prerequisites:**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Child Development Careers CERTIFICATE

Program Overview
This program is designed to give students an introduction to the field of Early Childhood Education and the variety of possibly career opportunities. Each of our other programs begin with the Certificate-level courses. Students will learn about child development, guidance, health and safety, professional relations, and strategies for promoting learning in young children.

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
Graduates of the Child Development Certificate program will qualify to work at a child care center, preschool program, before/after-school program, a family child care home or nanny. This certificate meets Minnesota Department of Human Services educational requirements for child care provider. The demand for trained child development professionals continues to increase as more and more parents seek quality care and educational programs for their children. Our job placement rate is well over 95% and the Bureau of Labor Statistics estimates that the employment outlook will grow faster than average through 2026.

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 knowledge and skills in positive child guidance techniques.
4. Graduates will demonstrate the knowledge and skills in positive family, community, and staff relations.

Program Faculty
Students should consult with the Program Faculty each semester.
Janet Massa  janet.massa@saintpaul.edu
Kelly McKown  kelly.mckown@saintpaul.edu

Part-time/Full-time Options
Part-time and full-time options are available. Evening, Saturday, and online courses are also available.

Program Requirements
☐ Check off when completed

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

Total Program Credits  16

Program Start Dates
Fall, Spring

Course Sequence
This certificate can be completed in one semester as shown in the following sequence. Not all courses are offered each semester; a selection of courses is offered summer term.

First Semester
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
Total Semester Credits  16
Total Program Credits  16

*This certificate can also be completed over two or more semesters.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ on Reading Comprehension or grade of “C” or better in READ 0721
Arithmetic: Score of 20+
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Requirements Guide 2018 - 2019

Cosmetology AAS DEGREE

Program Overview
The Cosmetology AAS degree meets the requirements for licensure by the Minnesota Board of Cosmetologist Examiners and provides transferrable credits towards a two- or four-year degree in liberal arts and sciences.

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.

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 should enjoy working with the public and in a team atmosphere. People skills and time management skills are essential.

Licensing or certification exams are independent of graduation requirements.

Career Opportunities
The job outlook is good 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.

Program Outcomes
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).
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 Faculty
Marcie Smith-Fields
marcie.smith-fields@saintpaul.edu

Full-time
Students attend full-time and can complete the program in four semesters.

Licensure
This program meets Minnesota Board of Cosmetologist Examiners requirements.

Textbook and Supply Costs
Students should expect to spend approximately $3,700.00 for cosmetology kits, supplies, and books. This cost is in addition to tuition and fees.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

Cosmetology AAS
BA Health Care Administration
Concordia University, St. Paul
BA Individualized Studies
Metropolitan State University

Additional Requirements
Be prepared to purchase student cosmetology kits the first day of class from the book store.

All books MUST be purchased before classes begin.

Cosmetology Student Handbook/Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook. After you have read the handbook, you must print and sign Student Agreement Form, Hepatitis B Vaccination/Declination Form and Rollabout Form and return them to your instructor on the first day of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester.

Please direct questions to the assigned instructor of your first class.

Course Sequence
See back of guide for Program Requirements and Course Sequence. Required course sequence is dependent upon which Semester/Term the student starts the Cosmetology AAS Degree Program. The General Education Courses (16 credits) may be taken during the Semester/Term of student’s choice or after completion of Technical Requirement courses.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Arithmetic: Score of 31+

Assessment Results and Prerequisites: Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

135A (7123)
Program Requirements

☐ Check off when completed

☐ Required Program Orientation

All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at a orientation.

Courses

- CHSN 1598 Body Systems & Disease – 4
- CHSN 1599 Preclinic Introduction – 4
- COSM 1601 Preclinic Hair Care 1 – 3
- COSM 1602 Preclinic Hair Care 2 – 3
- COSM 1603 Preclinic Nail Care – 3
- COSM 1604 Preclinic Skin Care – 3
- COSM 1605 Preclinic Hair Color – 3
- COSM 1606 Preclinic Chemical Control – 3
- COSM 1620 Advanced Hair Care – 4
- COSM 1901 Clinic 1 for Cosmetology Majors – 3
- COSM 1902 Clinic 2 for Cosmetology Majors – 3
- COSM 1903 Clinic 3 for Cosmetology Majors – 3
- COSM 1904 Clinic 4 for Cosmetology Majors – 3
- COSM 1905 Clinic 5 for Cosmetology Majors – 3
- COSM 1906 Clinic 6 for Cosmetology Majors – 3
- COSM 1907 Clinic 7 for Cosmetology Majors – 3

General Education Requirements – 51

Required Technical Electives – 3

Select 3 credits from the following Technical Electives to complete the required 1550 hours needed for licensure:
- COSM 1951 Salon Operations 1 for Cosmetology/Nail Technician Majors – 1
- COSM 1952 Salon Operations 2 for Cosmetology/Nail Technician Majors – 2
- COSM 1953 Salon Operations 3 for Cosmetology/Nail Technician Majors – 3
- COSM 1954 Salon Operations 4 for Cosmetology/Nail Technician Majors – 4
- COSM 1955 Salon Operations 5 for Cosmetology/Nail Technician Majors – 5
- COSM 1956 Salon Operations 6 for Cosmetology/Nail Technician Majors – 6

General Education/MnTC Requirements – 16

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

☐ Goal 1: Communication – 7
  - ENGL 1711 Composition 1 – 4 cr
  - COMM 17XX (COMM 1720 - Interpersonal Communication recommended) – 3 cr
- Goal 3 or Goal 4 – 3 cr
  - Goal 3: Natural Sciences OR
  - Goal 4: Mathematical/Logical Reasoning
- Goal 5: History, Social Science and Behavioral Sciences – 3
- Goal 6: Humanities and Fine Arts – 3

General Education Requirements – 16

Total Program Credits – 70

Course Sequence

Required course sequence is dependent upon which Semester/Term the student starts the Cosmetology AAS Degree Program. The General Education courses (16 credits) may be taken during the Semester/Term of student’s choice or after completion of Technical Requirement courses.

If you start the program Fall or Spring Semester:

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>Hrs</th>
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<tbody>
<tr>
<td>CHSN 1598 Body Systems &amp; Disease</td>
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<td>80</td>
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<tr>
<td>CHSN 1599 Preclinic Introduction</td>
<td>4</td>
<td>80</td>
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<tr>
<td>COSM 1601 Preclinic Hair Care</td>
<td>3</td>
<td>96</td>
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<tr>
<td>COSM 1602 Preclinic Hair Care</td>
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<td>COSM 1603 Preclinic Nail Care</td>
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<tr>
<td>COSM 1604 Preclinic Skin Care</td>
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<td>96</td>
</tr>
<tr>
<td>COSM 1605 Preclinic Hair Color</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>COSM 1606 Preclinic Chemical Control</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>COSM 1620 Advanced Hair Care</td>
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<td>112</td>
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<td>COSM 1901 Clinic 1 for Cosmetology Majors</td>
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<td>COSM 1903 Clinic 3 for Cosmetology Majors</td>
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</tr>
<tr>
<td>COSM 1907 Clinic 7 for Cosmetology Majors</td>
<td>3</td>
<td>96</td>
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</tbody>
</table>

General Education/MnTC Requirements – 16

Subtotal Program Credits Hours – 54 – 1552

Any Semester

Goal 1: ENGL 1711 Composition 1 – 4
Goal 1: COMM 17XX (COMM 1720 - Interpersonal Communication recommended) – 3
Goal 3 or 4: Natural Sciences OR Mathematical/Logical Reasoning – 3
Goal 5: History, Social Science and Behavioral Sciences – 3
Goal 6: Humanities and Fine Arts – 3

General Education Requirements – 16

Total Program Credits – 70 – 1552
Program Overview
The Cosmetology Diploma program meets the requirements for licensure by the Minnesota Board of Cosmetologist Examiners.

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. 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 should enjoy working with the public and in a team atmosphere. People skills and time management skills are essential.

Licensing or certification exams are independent of graduation requirements.

Career Opportunities
The job outlook is good for cosmetologists. 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.

Program Outcomes
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).
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 Faculty
Marcie Smith-Fields
marcie.smith-fields@saintpaul.edu

Full-time
Students attend full-time and can complete the program in three semesters.

Licensure
This program meets Minnesota Board of Cosmetologist Examiners requirements.

Textbook and Supply Costs
Students should expect to spend approximately $3,700.00 for cosmetology kits, supplies, and books. This cost is in addition to tuition and fees.

Additional Requirements

Purchase Kits
Be prepared to purchase student cosmetology kits the first day of class from the book store. Financial aid must have been completed.

All books MUST be purchased before classes begin.

Cosmetology Student Handbook/Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook. After you have read the handbook, you must print and sign Student Agreement Form, Hepatitis B Vaccination/Declination Form and Rollabout Form and return them to your instructor on the first day of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester. Please direct questions to the assigned instructor of your first class.

Course Sequence
See back of guide for Program Requirements and Course Sequence. Required course sequence is dependent upon which Semester/Term the student starts the Cosmetology Diploma program. The General Education Requirement (3 credits) may be taken during the Semester/Term of student’s choice.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ on Reading Comprehension or grade of “C” or better in READ 0721

Writing: Any

Arithmetic: Score of 31+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Cosmetology  DIPLOMA (continued)

Program Start Dates

Fall, Spring,
Summer – online only CHSN 1598 & CHSN 1599

Program Requirements

☐ Check off when completed

☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course Sequence

Required course sequence is dependent upon which Semester/Term the student starts the Cosmetology Diploma Program. The General Education Requirement (3 credits) may be taken during the Semester/Term of student’s choice.

If you start the program Fall or Spring Semester:

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<tr>
<th>Course</th>
<th>Cr</th>
<th>Hrs</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
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<tr>
<td>CHSN 1598 Body Systems &amp; Diseases</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>CHSN 1599 Preclinic Orientation</td>
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</tr>
<tr>
<td>COSM 1601 Preclinic Hair Care 1</td>
<td>3</td>
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<tr>
<td>COSM 1602 Preclinic Hair Care 2</td>
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<td>COSM 1603 Preclinic Nail Care</td>
<td>3</td>
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<tr>
<td>COSM 1604 Preclinic Skin Care</td>
<td>3</td>
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<td>COSM 1605 Preclinic Hair Color</td>
<td>3</td>
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<tr>
<td>COSM 1606 Preclinic Chemical Control</td>
<td>3</td>
<td>64</td>
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<tr>
<td>COSM 1620 Advanced Hair Care</td>
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<td>128</td>
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<td>COSM 1901 Clinic 1 for Cosmetology Majors</td>
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<tr>
<td>COSM 1907 Clinic 7 for Cosmetology Majors</td>
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</table>

Subtotal | 51 |

| Second Semester |
| COSM 1605 Preclinic Hair Color | 3 | 72 |
| COSM 1606 Preclinic Chemical Control | 3 | 72 |
| COSM 1620 Advanced Hair Care | 4 | 128 |
| COSM 1901 Clinic 1 for Cosmetology Majors | 3 | 72 |
| COSM 1902 Clinic 2 for Cosmetology Majors | 3 | 72 |
| COSM 1903 Clinic 3 for Cosmetology Majors | 3 | 72 |
| COSM 1904 Clinic 4 for Cosmetology Majors | 3 | 72 |
| COSM 1905 Clinic 5 for Cosmetology Majors | 3 | 72 |
| COSM 1906 Clinic 6 for Cosmetology Majors | 3 | 72 |
| COSM 1907 Clinic 7 for Cosmetology Majors | 3 | 72 |
| COSM 1951 Salon Operations 1 for Cosmetology/Nail Tech Majors | 1 | 32 |
| Total Semester Credits/Hours | 29 | 784 |

Subtotal Program Credits/Hours | 51 |

| Third Semester |
| COSM 1907 Clinic 7 for Cosmetology Majors | 3 | 96 |
| COSM 1952 Salon Operations 2 for Cosmetology/Nail Tech Majors | 2 | 64 |
| Total Semester Credits/Hours | 5 | 160 |

Subtotal Program Credits/Hours | 54 | 1552 |

Any Semester

General Education Requirements (Semester of Choice)

Goals 1-10: Minnesota Transfer Curriculum

COMM 1720 -Interpersonal Communication (recommended) | 3 |

General Education Requirement | 3 |

Total Program Credits: | 57 | 1552 |
Nail Care Technician CERTIFICATE

Program Overview
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.

Physical requirements include finger dexterity, negative allergic reaction to cosmetic preparations, and artistic flair for creative design. The nail technician should enjoy working with the public and in a team atmosphere. People skills and time management skills are essential.

Licensing or certification exams are independent of graduation requirements.

Career Opportunities
The job outlook is very good for 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 nail technicians.

After Nail Care 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
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).
3. Graduates will possess knowledge and skills for manicures, pedicures and application of artificial nails.

Program Faculty
Marcie Smith-Fields
marcie.smith-fields@saintpaul.edu

Full-time
Students may complete the program in one semester. Consult with Cosmetology Instructor to develop a plan.

Additional Costs
Students should expect to spend approximately $700.00 for nail care kits, supplies and books. This cost is in addition to tuition and fees. There is an additional fee to take the licensure exam.

Program Requirements
☐ Check off when completed
☐ Required Program Orientation
All Cosmetology, Esthetics and Nail Technician applicants must attend a program orientation prior to enrollment as a full-time student. Please call the Clinic receptionist at 651.846.1329 to reserve your space at an orientation.

Course Sequence

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHSN 1598 Body Systems &amp; Diseases on-line ... 4</td>
<td></td>
</tr>
<tr>
<td>CHSN 1599 Preclinic Introduction on-line COSM ... 4</td>
<td></td>
</tr>
<tr>
<td>COSM 1603 Preclinic Nail Care ... 3</td>
<td></td>
</tr>
<tr>
<td>COSM 1908 Clinic 1 for Nail Technicians ... 3</td>
<td></td>
</tr>
<tr>
<td>COSM 1952 Salon Operations 2 for Cosmetology/ Nail Technician Majors ... 2</td>
<td></td>
</tr>
</tbody>
</table>

Total Program Credits ................. 16

☐ Select from the following electives as needed:
CHSN 1951 Salon Operations 1 for Cosmetology/ Nail Technician Majors ............... 2
CHSN 1953 Salon Operations 3 for Cosmetology/ Nail Technician Majors ............... 3

Total Program Credits ................. 16

Additional Requirements
Be prepared to purchase kits the first day of class from the book store with the instructor. Financial aid must have been completed.

All books MUST be purchased before classes begin.

Cosmetology Student Handbook/ Agreement Form
All new and returning students will need to access D2L Brightspace PRIOR to the first day of classes to read the Cosmetology student handbook.
After you have read the handbook, you must print and sign: Student Agreement Form, Hepatitis B Vaccination/Declination Form and Rollabout Form and return them to your instructor on the first day of class before you will be admitted to class. You will need to perform this task prior to the first day of each semester. Please direct questions to the assigned instructor of your first class.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

057C (7078)
Program Overview
The Culinary Arts AAS degree prepares individuals for career opportunities in hotels restaurants, clubs and institutional food service facilities. Responsibilities may include menu planning, purchasing food, equipment, and supplies, selecting, and developing recipes, selecting and using various food preparation methods and techniques. Management duties may include, but are not limited to: financial planning, hiring, training and supervising employees. Graduates will be eligible for Certified Culinarian award from the American Culinary Federation as well as more advanced certificates with requisite culinary industry work experience.

Career Opportunities
According to the U.S. Bureau of Labor Statistics and the National Restaurant Association, meal preparation continues to shift out of the home, providing plentiful opportunities for chefs, cooks, and 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 to many different directions such as hospitality management, sales, product development, or owning your own business.

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."
8. Graduates will create a professional career plan.
9. Graduates will apply analysis and problem solving to food production.

Program Faculty
Sean Jones  sean.jones@saintpaul.edu
Manfred Krug  manfred.krug@saintpaul.edu
Nathan Sartain  nathan.sartain@saintpaul.edu

Textbook and Supply Costs
Students should expect to spend approximately $1,300.00 for books, uniform and culinary supplies. This cost is in addition to the cost of tuition and fees.

Program Requirements
☐ Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
<tr>
<td>CULA 1405 Culinary Arts Foundations 1</td>
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<td>CULA 1415 Culinary Arts Foundations 2</td>
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<td>CULA 1465 Culinary Nutrition Theory</td>
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<tr>
<td>CULA 1505 Contemporary Bake Shop Production</td>
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<tr>
<td>CULA 1515 Contemporary Pantry Production</td>
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<td>CULA 1525 Contemporary Range Production</td>
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<td>CULA 1545 Contemporary Quick Fare Production</td>
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<tr>
<td>CULA 1555 Culinary Career Portfolio</td>
<td>1</td>
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<td>CULA 1565 Principles of Culinary Leadership</td>
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<td>CULA 1575 Artisan Baking and Pastry</td>
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<tr>
<td>CULA 1585 Introduction to Dining Room Service</td>
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<td>CULA 1590 Café Dining Practicum</td>
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<td>CULA 1705 Sustainable Foods Practicum</td>
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<td>CULA 2100 Menu Composition and Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CULA 2105 Applied Restaurant Operations 1</td>
<td>3*</td>
</tr>
<tr>
<td>CULA 2110 Applied Restaurant Operations 2</td>
<td>3*</td>
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<tr>
<td>CULA 2115 Contemporary Dining Room Service</td>
<td>1</td>
</tr>
<tr>
<td>CULA 2220 Sensory Evaluation &amp; Wine Pairing</td>
<td>2*</td>
</tr>
<tr>
<td>CULA 2225 Garde Manger</td>
<td>1*</td>
</tr>
<tr>
<td>CULA 2230 Food, Beverage, Labor Cost Control</td>
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<tr>
<td>CULA 2235 Event Based Dining Capstone</td>
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</table>

Subtotal 52

General Education/MnTC Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
</table>

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

Goal 1: Communication
ENGL 1711 Composition 1 – 4 cr
COMM 17XX COMM 1720 Interpersonal Communication – 3 cr (recommended)
Must be completed prior to starting 3rd Semester.

Goal 3 or Goal 4
Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning
Goal 5: History, Social Science and Behavioral Sciences
Goal 6: Humanities and Fine Arts

General Education Requirements 16

Total Program Credits 68

*Course has a differential tuition rate. Check the Course Schedule at www.saintpaul.edu/CourseSchedule for current course costs.

Information is subject to change.
This Program Requirements Guide is not a contract.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 52+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Exemplary Status
Saint Paul College’s Culinary Arts AAS degree and Culinary Arts Diploma programs are the only exemplary culinary programs in public education in Minnesota.

Exemplary Programs symbolize the highest educational standards recognized by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). The award is presented to programs that have proven full compliance with all ACFEFAC accreditation requirements in the last visiting team report along with excellent management of the program.

Program Start Dates
Fall, Spring, Summer – only General Education courses

Course Sequence
The course sequence listed on the back is required for a full-time student.

Accreditation
This program is accredited by the American Culinary Federation Education Foundation's Accrediting Commission. (ACFEF)

American Culinary Federation Education Foundation
Programmatic Accreditation by ACFEF Accrediting Commission

See back of this guide for Course Sequence and Transfer Opportunities
Course Sequence
The following sequence is required for a full-time student starting in Fall semester.

First Semester
CULA 1405 Culinary Arts Foundations 1 ........... 2
CULA 1415 Culinary Arts Foundations 2 ........... 4
CULA 1425 Fundamentals of Pastry ................... 1
CULA 1435 Butchery and Charcuterie ................. 2
CULA 1445 Food Service Practicum ................... 2
CULA 1455 Food Safety and Sanitation ............... 2
CULA 1465 Culinary Nutrition Theory ............... 2
Goal 1: COMM 17XX .................................... 3
COMM 1720 Interpersonal Communication (recommended)
Must be completed prior to starting third semester coursework
Total Semester Credits ................................. 18

Second Semester
CULA 1505 Contemporary Bake Shop Production .... 2
CULA 1515 Contemporary Pantry Production .......... 2
CULA 1525 Contemporary Range Production .......... 2
CULA 1545 Contemporary Quick Fare Production ...... 2
CULA 1555 Culinary Career Portfolio .................. 1
CULA 1565 Principles of Culinary Leadership .......... 2
CULA 1575 Artisan Baking and Pastry ................. 2
CULA 1585 Introduction to Dining Room Service ...... 1
CULA 1590 Cafe Dining Practicum ...................... 2
Goal 6: Humanities and Fine Arts ..................... 3
Total Semester Credits .................................. 19

Third Semester (Summer)
CULA 1700 Culinary Externship ....................... 3
CULA 1705 Sustainable Foods Practicum ............. 1
Goal 1: ENGL 1711 Composition 1 .................... 4
Goal 3 or 4: Natural Sciences or Mathematical/Logical Reasoning .............................. 3
Total Semester Credits ................................. 11

Fourth Semester
CULA 2100 Menu Composition and Analysis .......... 2
CULA 2105 Applied Restaurant Operations 1 ....... 3
CULA 2110 Applied Restaurant Operations 2 ....... 3
CULA 2115 Contemporary Dining Room Service ...... 1
CULA 2220 Sensory Evaluation & Wine Pairing ...... 2
CULA 2225 Garde Manger .............................. 1
CULA 2230 Food, Beverage, Labor Cost Control ...... 3
CULA 2235 Event Based dining Capstone ............. 2
Goal 5: History, Social Sciences and Behavioral Sciences ............................................. 3
Total Semester Credits ................................. 20

Total Program Credits ................................. 68

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.
For more information please go to www.saintpaul.edu/Transfer.

Culinary Arts AAS
BA Individualized Studies
Metropolitan State University
BS Culinology
Southwest Minnesota State University
Culinary Arts DIPLOMA

Program Overview
The Culinary Arts Diploma prepares individuals for career opportunities in hotels, restaurants, clubs and institutional food service facilities. Responsibilities may include menu planning, purchasing food, equipment, and supplies, selecting, and developing recipes, selecting and using various food preparation methods and techniques. Management duties may include, but are not limited to financial planning, hiring, training and supervising employees.

Career Opportunities
According to the U.S. Bureau of Labor Statistics and the 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.

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 may be eligible for Minnesota Food Manager Certification.
6. Graduates will create a professional career plan.
7. Graduates will apply analysis and problem solving to food production.

Program Faculty
Sean Jones sean.jones@saintpaul.edu
Manfred Krug manfred.krug@saintpaul.edu
Nathan Sartain nathan.sartain@saintpaul.edu

Textbook and Supply Costs
Students should expect to spend approximately $1,300.00 for books, uniform, and culinary supplies. This cost is in addition to the cost of tuition and fees.

Program Requirements
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<td>CULA 1565 Culinary Career Portfolio</td>
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<tr>
<td>CULA 1565 Principles of Culinary Leadership</td>
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<td>CULA 1700 Culinary Externship</td>
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<td>CULA 1705 Sustainable Foods Practicum</td>
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<tr>
<td>CULA 2100 Menu Composition and Analysis</td>
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<td>CULA 2105 Applied Restaurant Operations 1</td>
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<td>CULA 2110 Applied Restaurant Operations 2</td>
<td>3</td>
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<tr>
<td>CULA 2115 Contemporary Dining Room Service</td>
<td>1</td>
</tr>
<tr>
<td>CULA 2220 Sensory Evaluation &amp; Wine Pairing</td>
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</tr>
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<td>CULA 2225 Garde Manger</td>
<td>1*</td>
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<tr>
<td>CULA 2230 Food, Beverage, Labor Cost Control</td>
<td>3</td>
</tr>
<tr>
<td>CULA 2235 Event Based Dining Capstone</td>
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</tbody>
</table>

Subtotal                                      | 52 |

General Education/MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication 3
COMM 17XX COMM 1720 Interpersonal Communication 3 cr (recommended)
☐ Goal 3 or Goal 4
☐ Goal 3: Natural Sciences OR
☐ Goal 4: Mathematical /Logical Reasoning

General Education Requirements 6

Total Program Credits 58

*Course has a differential tuition rate. For current course costs go to saintpaul.edu/CourseSchedule

Program Start Dates
Fall, Spring, Summer – only General Education courses

Course Sequence
The course sequence listed on the back is required for a full-time student.

Accreditation
This program is accredited by the American Culinary Federation Education Foundation’s Accrediting Commission. (ACFEF)

Exemplary Status
Saint Paul College’s Culinary Arts AAS degree and Culinary Arts Diploma programs are the only exemplary culinary programs in public education in Minnesota.

Exemplary Programs symbolize the highest educational standards recognized by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). The award is presented to programs that have proven full compliance with all ACFEFAC accreditation requirements in the last visiting team report along with excellent management of the program.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ on Reading Comprehension or grade of “C” or better in READ 0721
Writing: Score of 60+ or grade of “C” or better in ENGL 0921
Arithmetic: Score of 52+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

See back of this guide for Course Sequence

Information is subject to change.
This Program Requirements Guide is not a contract.
## Culinary Arts DIPLOMA (continued)

### Course Sequence

The following sequence is required for a full-time student.

#### First Semester

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CULA 1405</td>
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<td>CULA 1415</td>
<td>Culinary Arts Foundations 2</td>
<td>4</td>
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<td>CULA 1425</td>
<td>Fundamentals of Pastry</td>
<td>1</td>
</tr>
<tr>
<td>CULA 1435</td>
<td>Butchery and Charcuterie</td>
<td>2</td>
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<tr>
<td>CULA 1445</td>
<td>Food Service Practicum</td>
<td>2</td>
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<tr>
<td>CULA 1455</td>
<td>Food Safety and Sanitation</td>
<td>2</td>
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<td>CULA 1465</td>
<td>Culinary Nutrition Theory</td>
<td>2</td>
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<tr>
<td>COMM 17XX</td>
<td>(Goal 1 only)</td>
<td>3</td>
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<tr>
<td></td>
<td>COMM 1720 Interpersonal Communication (recommended)</td>
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Must be completed prior to starting third semester coursework

**Total Semester Credits**: 18

#### Second Semester

<table>
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<td>Principles of Culinary Leadership</td>
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<td>Introduction to Dining Room Service</td>
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<td>CULA 1590</td>
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**Total Semester Credits**: 16

#### Third Semester (Summer)

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<td>Goal 4:</td>
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**Total Semester Credits**: 7

#### Fourth Semester

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<tr>
<td>CULA 2110</td>
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<td>CULA 2220</td>
<td>Sensory Evaluation &amp; Wine Pairing</td>
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<td>CULA 2225</td>
<td>Garde Manger</td>
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<td>CULA 2230</td>
<td>Food, Beverage, Labor Cost Control</td>
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<tr>
<td>CULA 2235</td>
<td>Event Based Dining Capstone</td>
<td>2</td>
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</tbody>
</table>

**Total Semester Credits**: 17

**Total Program Credits**: 58
Culinary Foundations  CERTIFICATE

Program Overview
Graduates will have completed training in cooking, baking, and pastry fundamentals, learning techniques in the production of various hot and cold foods as well as butchery.

Graduates will be prepared for positions in casual dining, quick service, cafeteria, healthcare institutional/commercial foods, butchery, and as pastry assistants. Course work will also provide the nutrition, sanitation, and food safety training necessary for entry level and managerial food service positions.

Career Opportunities
According to the U.S. Bureau of Labor Statistics and the 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 restaurants, catering/corporate dining, government and school kitchens Institutional opportunities include health care, schools, corporations, and government facilities. Pastry assistant positions are available in hotels, casinos, private clubs, and resorts.

Program Outcomes
1. Graduates will have knowledge and skills in restaurant production line service and commercial food operations.
2. Graduates will demonstrate knowledge of pastry, hot and cold food preparations.
3. Graduates will be prepared for immediate employment in the food service industry.
4. Graduates will demonstrate knowledge of culinary nutrition as applied to all facets of the food service and hospitality industry.
5. Graduates will have demonstrated and applied proper sanitation, food and kitchen safety.
6. Graduates will be eligible for ServSafe Certification and Minnesota Food Manager Certification.

Program Faculty
Sean Jones  sean.jones@saintpaul.edu
Manfred Krug  manfred.krug@saintpaul.edu
Nathan Sartain  nathan.sartain@saintpaul.edu

Textbook and Supply Costs
Students should expect to spend approximately $1,000.00 for books, uniform, and culinary supplies. This cost is in addition to the cost of tuition and fees.

Program Requirements
☐ Check off when completed
Course  Cr
☐ CULA 1405 Culinary Arts Foundations 1  2*
☐ CULA 1415 Culinary Arts Foundations 2  4*
☐ CULA 1425 Fundamentals of Pastry  1*
☐ CULA 1435 Butchery and Charcuterie  2*
☐ CULA 1445 Food Service Practicum  2
☐ CULA 1455 Food Safety and Sanitation  2
☐ CULA 1465 Culinary Nutrition Theory  2
Subtotal  15

General Education/MnTC Requirements  Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 3 or 4  3
Goal 3: Natural Sciences – 3 cr OR
Goal 4: Mathematical /Logical Reasoning – 3 cr
General Education Requirements  3

Total Program Credits  18

*Course has a differential tuition rate. Check the Course Schedule at saintpaul.edu/CourseSchedule for current course costs.

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required.

First Semester
CULA 1405 Culinary Arts Foundations  2
CULA 1415 Culinary Arts Foundations  4
CULA 1425 Fundamentals of Pastry  1
CULA 1435 Butchery and Charcuterie  2
CULA 1445 Food Service Practicum  2
CULA 1455 Food Safety and Sanitation  2
CULA 1465 Culinary Nutrition Theory  2
Goal 3 or 4: Natural Sciences /Mathematical /Logical Reasoning  3
Total Semester Credits  18
Total Program Credits  18

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ on Reading Comprehension or grade of “C” or better in READ 0721
Writing: Any
Arithmetic: Score of 52+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Requirements Guide 2018 - 2019

Pastry and Baking CERTIFICATE

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 chefs menu.

This certificate will allow the student to gain sufficient knowledge and skill to become employable in a commercial baking and cake decorating environment. Bakeries, pastry shops and candy shops are potential employers. Many large department stores, grocery stores, hotels and private clubs also hire our graduates. Entrepreneurs that are interested in having these skills to support their own plan are also welcome.

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 the 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.

Program Outcomes
1. Graduates will be proficient in the preparation of various cakes, pastries and icings.
2. Graduates will demonstrate skilled use of piping bag and decorating technique.
3. Graduates will be eligible for Minnesota Food Manager Certification.
4. Graduates will be prepared for immediate employment in bakery.

Program Faculty
Sean Jones sean.jones@saintpaul.edu
Manfred Krug manfred.krug@saintpaul.edu
Nathan Sartain nathan.sartain@saintpaul.edu

Professional Focus
This program offers a focused, hands-on, professional approach to baking breads, cakes and pastries, including development of marketable cake decorating skills.

Transferable Credits
The majority of credits completed in the Pastry and Baking Certificate program apply to the Culinary Arts Diploma and AAS Degree programs.

Textbook and Supply Costs
Students should expect to spend approximately $400.00 for books, uniform, and culinary supplies. This cost is in addition to the cost of tuition and fees.

Program Requirements
☐ Check off when completed

Course                                           Cr
☐ CULA 1405 Culinary Arts Foundations 1 ........ 2*
☐ CULA 1425 Fundamentals of Pastry ............... 1*
☐ CULA 1455 Food Safety and Sanitation .......... 2
☐ CULA 1465 Culinary Nutrition Theory .......... 2
☐ CULA 1565 Principles of Culinary Leadership .. 2
☐ CULA 1575 Artisan Baking and Pastry .......... 2*
☐ CULA 2600 Advanced Decorating and Pastry ..... 3
☐ CULA 2610 Showpieces and Conisierie ........ 3
Subtotal ........................................ 17

*Course has a differential tuition rate. Check the Course Schedule at saintpaul.edu/CourseSchedule for current course costs.

Program Start Dates
Fall, Spring

Course Sequence
This certificate can be completed in a variety of ways. Courses may be offered in the day or evening.

First Semester (Fall)
CULA 1425 Fundamentals of Pastry ................ 1*
CULA 1455 Food Safety and Sanitation .......... 2
CULA 1465 Culinary Nutrition Theory .......... 2
CULA 1565 Principles of Culinary Leadership .. 2
Total Semester Credits .......................... 7

Second Semester (Spring, Afternoon Section)
CULA 1405 Culinary Arts Foundations 1 ......... 2*
CULA 1575 Artisan Baking and Pastry .......... 2*
CULA 2600 Advanced Decorating and Pastry ..... 3
CULA 2610 Showpieces and Conisierie ........ 3
Total Semester Credits .......................... 10
Total Program Credits ........................... 17

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 60+ on Reading Comprehension or grade of "C" or better in READ 0721
Writing: Any
Arithmetic: Score of 52+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Wine Professional \textbf{CERTIFICATE}

\textbf{Program Overview}

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

\textbf{Career Opportunities}

The wine industry is rapidly expanding within the United States, where wine sales represent the largest wine consumer market in the world. A new report published by Allied Market Research, titled, “Luxury Wines and Spirits Market by Product Type, Distribution Channel and Geography: Global Opportunity Analysis and Industry Forecast, 2014 - 2022,” projects that the global luxury wines and spirits market was valued at $812,108 million in 2015, and is expected to reach $1,122,578 million by 2022, growing at a CAGR of 4.8 percent from 2016 to 2022. Wine sales have now surpassed beer sales, with millennials 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.


\textbf{Program Outcomes}

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.

\textbf{Program Faculty}

Nikki Erpelding nikki.erpelding@saintpaul.edu

\textbf{Program Requirements}

\begin{itemize}
  \item Check off when completed
  \item All credits must be completed in one semester.
  \item Must be 21 years of age**
\end{itemize}

\begin{center}
\begin{tabular}{|l|l|}
\hline
Course & Cr. \\
\hline
\hline
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 Food and Wine & 2 \\
CULA 1640 Wine Marketing & 2 \\
\hline
Total Program Credits & 9 \\
\hline
\end{tabular}
\end{center}

*Course has a differential tuition rate. Check the Course Schedule at saintpaul.edu/CourseSchedule for current course costs.

**Alcohol awareness/server training is part of CULA 1620

\textbf{Minimum Program Entry Requirements}

Students entering this program must meet the following minimum program entry requirements:

Must be 21 years of age.
Program Overview
The Sign Language Interpreter/Transliterator AAS Degree program prepares individuals to work as interpreter transliterators facilitating and mediating communication between Deaf/Hard of Hearing/Deaf-Blind and hearing people. Interpreters must convey accurate messages, feelings and attitudes of participants, whether those messages are spoken or signed. To accomplish this, competency in English and in American Sign Language is necessary. A strong academic background, 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/responsibilities, interpreter’s Code of Professional Conduct, history of deaf people and their culture, and the historical evolvement of the interpreting profession. Interpreting and Translating skills courses provide guided practice in developing the skills necessary to effectively interpret/transcribe.

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 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 hold a Provisional certification. Graduates who plan to work in K-12 educational settings must hold a Provisional certification. Graduates will have the knowledge and skills to transcribe between spoken English and a signed form of English. Graduates will have the knowledge and skills to function as cross-cultural mediators in order to transmit and transfer culturally-based linguistic and non-linguistic information.

Graduates will be informed of the necessary employment knowledge, and professional behaviors that are requisite for employment as Sign Language Interpreters/Transliterators.

Graduates will sit for national certification within two years of graduation.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Sign Language Interpreter/Transliterator AAS
BA Health Care Administration Concordia University, St. Paul
BA Individualized Studies Metropolitan State University
BS Applied Organizational Studies Minnesota State University, Mankato
BS Healthcare and Human Service Management Saint Mary’s University-Twin Cities Campus

Minimum Program Entry Requirements

Complete prerequisite ASL 1 and ASL 2 with grade of “C” or better, ASL 3 and ASL 4 with a combined GPA of 3.0. Complete prerequisite of Composition 1 (ENGL 1711) and Psychology Throughout the Lifespan (PSYC 1720) preferred; General Psychology (PSYC 1710) accepted. Course must be completed with “C” grade or better. It is necessary for students in the Sign Language Interpreter/Transliterator Program to be able to process auditory and visual information.

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 52+

Program Start Dates
Fall

Program-Specific Admission Process
The Sign Language Interpreter/Transliterator program has a program-specific admission process. Admission requirements include completing the following course work before submitting the Program Major Application:

- American Sign Language 1 with a “C” or better
- American Sign Language 2 with a “C” or better
- American Sign Language 3 with a combined GPA of 3.0 in ASL 3 & ASL 4
- American Sign Language 4 with a combined GPA of 3.0 in ASL 3 & ASL 4
- ENGL 1711 Composition 1 (or equivalent) with a “C” or better
- PSYC 1720 Psychology Throughout the Lifespan preferred; PSYC 1710 General Psychology accepted. Course must be completed with a “C” or better

Program Major Application Form Submission
The Program Major Application form is called the “Application to Sign Language Interpreter/Transliterator AAS Degree Major” and is available on the program Web page. On the Program Major Application form, students verify satisfactory completion or courses in progress of the above requirements.

Above average skills on college assessment tests for reading and writing English are used to determine entry into the program.

ASL Courses must have been taken within the past five years. The last ASL course must be within the past 18 months of date of application. Applicants must ensure that all technical credits submitted for review have been received within five years of application date. Technical credits are valid for five years. This includes transfer technical credits, which are used for specific technical program 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 by taking ASL 5 during the summer term prior to beginning the Sign Language Interpreter/Transliterator Program.

The 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.

See back of this guide for Program Requirements and Course Sequence

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

049A 624A (7056)
Program Requirements

Check off when completed

Program Prerequisites

ASLS 1411 American Sign Language 1 (3 cr) with a grade of “C” or better
ASLS 1412 American Sign Language 2 (3 cr) with a grade of “C” or better
ASLS 1413 American Sign Language 3 (3 cr) with a combined GPA of 3.0 in ASL 3 & ASL 4
ASLS 1414 American Sign Language 4 (3 cr) with a combined GPA of 3.0 in ASL 3 & ASL 4

Pre-Core Program General Education Courses

Prior to Official Acceptance into Program:       Cr

In addition to completing the Program Prerequisites above, the following two General Education courses must be completed, or in progress with, a “C” or better grade prior to submitting your Program Major Application called the Application to Sign Language Interpreter/Transliterator AAS Degree Major form.

□ Goal 1: ENGL 1711 Composition 1 ........................................... 4
□ Goal 5: PSYC 1720 Psychology Throughout the Lifespan preferred ................ 3
(PSYC 1710 General Psychology accepted)

Pre-Core General Education Requirements ........................................ 7

Core Courses

The following Core courses can only be taken after official acceptance into the Sign Language Interpreter/Transliterator program.

□ ASLS 1420 ASL Linguistics ............................................. 4
□ ASLS 1430 Classifiers .................................................. 3
□ ASLS 1435 Deaf Studies/Culture ........................................ 3
□ INTP 1440 Orientation to Interpreting .............................. 3
□ INTP 1442 English Grammar for Sign Language Interpreters .......... 3
□ INTP 1500 Interpreting Process ....................................... 2
□ 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 2450 Deaf/Blind Interpreting ................................... 2
□ INTP 2592 Interpreter Internship ..................................... 5
□ Technical Electives ..................................................... 4

2 credits may be taken from the following electives:

□ ASLS 1415 American Sign Language 5 ............................. 3
□ ASLS 1443 ASL Fingerspelling and Numbers ..................... 3
□ ASLS 1446 ASL Non-Manual Markers ................................ 2
□ ASLS 1448 American Sign Language Semantics ................. 2
□ INTP 1465 Special Topics: Interpreting ............................ 1-5

2 credits must be taken from the following electives:

□ INTP 2410 Video Relay/Video Remote Interpreting OR ........... 2
□ INTP 2450 Deaf/Blind Interpreting .................................. 2

Core Credits ............................................. 51

Remaining General Education/MnTC Requirements       Cr

Must complete at least 9 remaining credits from the Minnesota Transfer Curriculum (MnTC)

□ Goal 1: Communication ................................................. 3
□ COMM 17XX – 3 cr .................................................... 3
□ Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning ................ 3
□ Goal 6: Humanities and Fine Arts .................................. 3

Remaining General Education Requirements ........................................ 9

Core Credits ............................................. 51

Pre-Core General Education Requirements ........................................ 7

Total Program Credits .................................................. 67

Course Sequence

The following sequence is recommended for a full-time student. Students are encouraged to take a portion of their general education requirements in the summer term during their program in order to lessen their academic load during the school year.

Part-time day courses are available during the fall and spring of the first year of the 2-year program. The summer course between first and second year is day programming. The second year of the program must be taken full-time, days. Not all courses are offered each semester; a selection of courses are offered summer term.

Required General Education Courses to be taken prior, or in progress, to submitting Program Major Application:

□ Goal 1: ENGL 1711 Composition 1 ........................................... 4
□ Goal 5: PSYC 1720 Psychology Throughout the Lifespan preferred ................ 3
(PSYC 1710 General Psychology accepted)

Any Semester prior to Program Acceptance ............................................. 7

With Official Acceptance into the Program, students begin taking INTP/ASLS Core Courses as follows:

First Semester

ASLS 1420 ASL Linguistics .............................................. 4
must be taken concurrently with or previous to INTP 1500 and INTP 1442
ASLS 1435 Deaf Studies/Culture ........................................ 3
can be taken concurrently with ASL 1-4
INTP 1442 English Grammar for Sign Language Interpreters .......... 2
must be taken concurrently with or previous to ASLS 1420 and INTP 1500
INTP 1500 Interpreting Process ............................................. 2
must be taken concurrently with ASLS 1420 and INTP 1442
Goal 1: COMM 17XX .................................................. 3
Total Semester Credits .................................................. 14

Second Semester

ASLS 1430 Classifiers .................................................. 3
INTP 1440 Orientation to Interpreting ................................. 3
INTP 1512 Consecutive Interpreting 1 .................................. 4
Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning ................ 3
Total Semester Credits .................................................. 13

Third Term

INTP 1513 Consecutive Interpreting 2 .................................. 2
Technical Electives ...................................................... 2
Goal 6: Humanities and Fine Arts .................................. 3
Total Semester Credits .................................................. 7

Fourth Semester

INTP 2411 Sign to Voice Interpreting 1 .................................. 4
INTP 2421 Voice to Sign Interpreting 1 .................................. 4
INTP 2431 Transliterating 1 ............................................. 4
INTP 2585 Internship Orientation ......................................... 1
Total Semester Credits .................................................. 13

Fifth Semester

INTP 2412 Sign to Voice Interpreting 2 .................................. 2
INTP 2422 Voice to Sign Interpreting 2 .................................. 2
INTP 2432 Transliterating 2 ............................................. 2
INTP 2592 Interpreter Internship ......................................... 5
Technical Electives ...................................................... 2
Total Semester Credits .................................................. 13

Total Program Credits .................................................. 67

All INTP core courses as well as ASLS courses require a grade of “C” or better.
Science & Mathematics

**Science**

Biochemistry .................................................. 155  
Biology .......................................................... 155  
Chemistry ......................................................... 155  
Natural Sciences ............................................. 155  
Physics .......................................................... 156  

Mathematics

Mathematics ..................................................... 156

**Science, Technology and Engineering**

Science

Biology Transfer Pathway AS (60 Credits) .......... 157  
Chemistry AS (60 Credits) ................................. 158  
Science Technician AS Degree (60 Credits) ........ 159  

Nanoscience

Nanoscience Technology AAS Degree (72 Credits) ... 160

Engineering

Engineering Broad Field AS Degree (60 Credits) .... 161

Computer Graphics and Visualization

Computer Graphics and Visualization AS Degree  
(60 Credits) .................................................. 163  
Visualization Technology AAS Degree (60 Credits) .... 164  
Visualization Technology Certificate (21 Credits) ... 165  
Computer Animation Certificate (18 Credits) ........ 166  
Web Design Certificate (18 Credits) .................... 167

Computer Science

CyberSecurity AAS Degree (60 Credits) ............... 168  
CyberSecurity Certificate (24 Credits) ................. 170  
Computer Science Transfer Pathway AS Degree  
(60 Credits) .................................................. 171  
Management Information Systems AS Degree  
(60 Credits) .................................................. 173  
Computer Network Engineering AAS Degree  
(60 Credits) .................................................. 175  
Computer Programming AAS Degree (60 Credits) .... 177  
Enterprise Computing Certificate (28 Credits) ........ 179  
Network Administration Certificate (24 Credits) .... 180  
Java Programming Certificate (24 Credits) .......... 182  
Web Based 2D Game Development Certificate  
(24 Credits) .................................................. 184  
Web Development Certificate (24 Credits) .......... 186  
Mobile Development Certificate (24 Credits) ........ 188

Data Science

Data Science AS Degree (60 Credits) ................. 190  
Geographic Information Science AAS Degree  
(60 Credits) .................................................. 191  
Geographic Information Science Certificate  
(24 Credits) .................................................. 192
### STEM: Science, Technology, Engineering & Mathematics Courses

Course delivery methods change on a semester basis. Please check the current course schedule for the most up-to-date information at [saintpaul.edu/CourseSchedule](saintpaul.edu/CourseSchedule).

## Science

### Biochemistry

Biochemistry is the study of the chemical reactions in living organisms, and it contains aspects of organic and inorganic chemistry as well as biology. Topics covered in biochemistry include protein structure and function, as well as cell metabolic processes that include lipids, carbohydrates, proteins, and nucleic acids. Biochemistry includes fundamental concepts that can be applied to molecular biology, immunochemistry, neurochemistry, and biophysical chemistry. It has a wide range of applications which can be applied to fields such as medicine, agriculture, toxicology, and engineering to name a few. Biochemists often work in modern research laboratories and participate in stimulating, creative work. They interact with scientists from other fields because their research is intertwined. The application of biochemistry to other fields focuses on improving the quality of life. Opportunities for employment in this field are expected to grow in industry, medicine, and genetic research.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tr>
<td>BIOC 1730</td>
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<tr>
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<td>BIOC 2700</td>
<td>4</td>
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<tr>
<td>BIOC 2790</td>
<td>1-4</td>
</tr>
</tbody>
</table>

### Chemistry

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 various graduation requirements.

<table>
<thead>
<tr>
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<th>Cr</th>
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<tbody>
<tr>
<td>CHEM 1700</td>
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<td>CHEM 2791</td>
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</tr>
<tr>
<td>CHEM 2795</td>
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</tr>
</tbody>
</table>

## Biology

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

<table>
<thead>
<tr>
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<th>Cr</th>
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<td>BIOL 1735</td>
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</tr>
<tr>
<td>BIOL 2770</td>
<td>1-4</td>
</tr>
</tbody>
</table>

## Natural Sciences

The Natural Sciences department offers courses in the areas of earth science, geology, oceanography, and meteorology. Natural Science courses fulfill Goals 3, 9 & 10 of the Minnesota Transfer Curriculum, as well as various graduation requirements.

<table>
<thead>
<tr>
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<tr>
<td>NSCI 1710</td>
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</tr>
<tr>
<td>NSCI 2770</td>
<td>1-4</td>
</tr>
</tbody>
</table>
Physics
The study of Physics involves the study of matter and motion, energy and forces. The Physics 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 various graduation requirements.

<table>
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<tr>
<td>PHYS 1720 Principles of Physics 1</td>
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<tr>
<td>PHYS 1722 Principles of Physics 2</td>
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<tr>
<td>PHYS 1760 Descriptive Astronomy (no lab)</td>
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<tr>
<td>PHYS 2700 General Physics 1 (with Calculus)</td>
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<tr>
<td>PHYS 2710 General Physics 2 (with Calculus)</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 2760 Introductory Astronomy (with lab)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2790 Special Topics in Physics</td>
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</tr>
</tbody>
</table>

Mathematics
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, College Algebra, Calculus, and Ordinary Differential Equations. Courses fulfill Minnesota Transfer Curriculum requirements and graduation requirements.

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>MATH 0910* Introductory Algebra</td>
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</tr>
<tr>
<td>MATH 0920* Intermediate Algebra</td>
<td>3</td>
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<tr>
<td>MATH 1411* Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1420* Trade Algebra and Trigonometry</td>
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<tr>
<td>MATH 1710 Liberal Arts Mathematics</td>
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<td>MATH 1730 College Algebra</td>
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<td>MATH 1740 Introduction to Statistics</td>
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<td>MATH 1750 Trigonometry</td>
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<td>MATH 1762 Pre-Calculus</td>
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<td>MATH 1790 Special Topics in Mathematics</td>
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<td>MATH 2100 Intermediate Statistics</td>
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<td>MATH 2749 Calculus 1</td>
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<td>MATH 2753 Multivariable Calculus</td>
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<tr>
<td>MATH 2760 Differential Equations and Linear Algebra</td>
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</tr>
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* Does not meet Minnesota Transfer Curriculum (MnTC) Distribution Requirements
Biology Transfer Pathway AS DEGREE

Program Overview
The Biology Transfer Pathway AS degree is awarded for successful completion of 60 credits in science and liberal arts. It is designed to constitute the first two years of a bachelor’s degree in Biology.

Career Opportunities
A biology major is a good choice for students who are intrigued by living things. Upon completion of the Biology Transfer Pathway AS degree, students will have learned to apply the scientific method, set up experiments, and use laboratory equipment. Students will develop laboratory skills, techniques, and procedures allowing them to gather, organize, and analyze data. As graduates in Biology, students can choose a number of career options from technical scientific laboratory careers to education. Salaries will vary depending on the chosen career path.

Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural science, mathematics, history and social and behavioral sciences, arts, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communication, and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of the fields of physical science and apply scientific theory to contemporary problems and issues.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Biology Transfer Pathway AS
BS Biology – General Biology
BS Biology – Ecology, Biodiversity, and Evolutionary Biology
BS Biology – Environmental Science
BA Biology
BA Biology Minnesota State University, Mankato
BA Biology
BA Ecolog Minnesota State University, Moorhead

BA Biology Concentration
Southwest Minnesota State University
BA Biology
St. Cloud State University
BA Biology
Winona State University

Program Faculty
Anita Bansal  anita.bansal@saintpaul.edu
Joanna Cregan  joanna.cregan@saintpaul.edu
Marian Gabrawy  mariann.gabrawy@saintpaul.edu
Jim Gielissen  jim.gielissen@saintpaul.edu
Rachel Hudson  rachel.hudson@saintpaul.edu
Nasreen Mehmood  nasreen.mehmood@saintpaul.edu
Kirstin Purcell  kirstin.purcell@saintpaul.edu
Mary Sueve  mary.sueve@saintpaul.edu

Program Requirements
☐ Check off when completed

Course  Cr
☐ BIOL 1740 General Biology 1 5
☐ BIOL 1745 General Biology 2 5
☐ BIOL 2755 Genetics 4
☐ CHEM 1711 Principles of Chemistry 1 4
☐ CHEM 1712 Principles of Chemistry 2 4
☐ Program Electives (select 1 of the following) 4
☐ BIOL 2750 General Microbiology – 4 cr
☐ BIOL 2755 General Microbiology – 4 cr
☐ Century College
☐ Inver Hills Community College
☐ Minneapolis Community & Technical College
☐ Normandale Community College
Subtotal 26-27

General Education/MnTC Requirements  Cr
☐ Goal 1: Communication 9
☐ ENGL 1711 Composition 1 – 4 cr
☐ ENGL 1712 Composition 2 – 2 cr
☐ COMM 17XX – 3 cr
☐ Goal 3: Natural Sciences 4
☐ Goal 3 met with courses above.
☐ Goal 3: Mathematical/Logical Reasoning 3
☐ MATH 1730 College Algebra (or higher) – 3 cr
☐ Goal 5: History, Social Science and Behavioral Sciences 9
☐ Minimum of three courses from two different disciplines
☐ Goal 6: Humanities and Fine Arts 9
☐ Minimum of three courses from two different disciplines
☐ Goals 1-10 of the Minnesota Transfer Curriculum
☐ Select a minimum of 3 additional credits
General Education Requirements 33-34
Total Program Credits 60

Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a full-time student; however, this sequence is not required.

Not all courses are offered each semester; a selection of courses is offered summer term.

Students should consult with the Program Faculty each semester.

First Semester
Goal 1: ENGL 1711 Composition 1 4
Goal 1: COMM 17XX 3
Goal 3: BIOL 1740 General Biology 1 5
Goal 4: MATH 1730 College Algebra 3
Total Semester Credits 15

Second Semester
Goal 1: ENGL 1712 Composition 2 2
Goal 3: BIOL 1745 General Biology 2 5
Goal 3: CHEM 1711 Principles of Chemistry 1 4
Goal 5: History, Social Science and Behavioral Sciences 3
Total Semester Credits 14

Third Semester
Goal 3: CHEM 1712 Principles of Chemistry 2 4
Goal 3: BIOL 2755 Genetics 4
Goal 5: History, Social Science and Behavioral Sciences 3
Goal 6: Humanities and Fine Arts 3
Total Semester Credits 14

Fourth Semester
Goal 5: History, Social Science and Behavioral Sciences 3
Goal 6: Humanities and Fine Arts 6
Goals 1-10 MnTC Elective 4-5
Program Electives 4-5
Total Semester Credits 17

Total Program Credits 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
### Chemistry AS DEGREE

#### Program Overview
The Associate of Science (AS) degree in Chemistry is awarded for successful completion of 60 credits in science and liberal arts. It is designed to constitute the first two years of a bachelor's degree in Chemistry.

#### Career Opportunities
Chemistry majors are curious, analytical and self-starting leaders. Upon completion of the Chemistry AS degree, students will have developed strong communication skills and grown in their scientific and mathematical reasoning skills as well as developed their ability to perform experiments in a hands-on environment. As graduates in Chemistry, students can choose a number of career options from technical scientific laboratory careers to education. Salaries will vary based on the chosen career path.

#### Program Outcomes
1. Design and conduct experiments as well as analyze and interpret the results.
2. Identify, formulate, and solve chemical and other science related problems.
3. Understand professional and ethical responsibility.
4. Apply knowledge of mathematics, science, and technology in the solution of chemical technology problems.
5. Solve science technology problems within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

#### Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

#### Chemistry AS
**BS** Chemistry

**Metropolitan State University**

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#### Program Faculty
- Penny Starkey: penny.starkey@saintpaul.edu
- Travis Mills: travis.mills@saintpaul.edu
- Zubah Kpanaku: zubah.kpanaku@saintpaul.edu

#### Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1740 General Biology 1: The Living Cell</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1711 Principles of Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2720 Organic Chemistry 1</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2721 Organic Chemistry 2</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 2700 General Physics 1 (w/Calc)</td>
<td>5</td>
</tr>
<tr>
<td>MnTC Goal 3 elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Semester Credits**: 60

---

#### Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

- **Reading**: Score of 78+ or grade of “C” or better in READ 0722
- **Writing**: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- **College Level Mathematics**: Score of 50+ or grade of “C” or better in MATH 0920

**Assessment Results and Prerequisites**:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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Information is subject to change. This Program Requirements Guide is not a contract.

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381S (7167)
Program Requirements

1. Design and conduct experiments as well as identify, formulate, and solve science technology problems.
2. Identify, formulate, and solve science technology problems.
3. Understand professional and ethical responsibility.
4. Apply knowledge of mathematics, science, and technology in the solution of chemical technology problems.
5. Solve science technology problems within realistic constraints such as economic, environmental, social, political, ethical, and health and safety, manufacturability, and sustainability.

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/transfer.

Science Technician AS

<table>
<thead>
<tr>
<th>BS</th>
<th>Science Technician AS</th>
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</thead>
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<tr>
<td>BA</td>
<td>Individualized Studies</td>
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<tr>
<td></td>
<td>Metropolitan State University</td>
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<tr>
<td>BS</td>
<td>Chemistry</td>
</tr>
<tr>
<td></td>
<td>Metropolitan State University</td>
</tr>
</tbody>
</table>

Program Faculty

Travis Mills  
travis.mills@saintpaul.edu

Penny Starkey  
penny.starkey@saintpaul.edu

Program Requirements

- Check off when completed Science and Engineering Core: Required

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1700 Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1712 Principles of Chemistry 2</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2070 General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2790 Science Technician Laboratory Research Project</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 1706 Principles of Engineering</td>
<td>2</td>
</tr>
<tr>
<td>Subtotal</td>
<td>17</td>
</tr>
</tbody>
</table>

Science and Engineering Focus (Select one focus area)

<table>
<thead>
<tr>
<th>Chemistry</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2721 Organic Chemistry 2</td>
<td>5</td>
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<tr>
<td>Science or Engineering Electives</td>
<td>8</td>
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<tr>
<td>Biochemistry</td>
<td></td>
</tr>
<tr>
<td>BIOL 2070 Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>Science or Engineering Electives</td>
<td>9</td>
</tr>
<tr>
<td>Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS 2710 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>Science or Engineering Electives</td>
<td>8</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGR 2700 Intro to Problem Solving and Engineering Design</td>
<td>2</td>
</tr>
<tr>
<td>Science or Engineering Electives</td>
<td>11</td>
</tr>
</tbody>
</table>

Focus Subtotal: 13

Note: Science/engineering electives must be taken from: BIOL, BIOL, CHEM, CSCI, ENGR, NSCI, PHYS. Consult with your advisor for information about 2, 3, and 4 credit course options.

General Education/MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

Goal 1: Communication – 7 cr
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr

Goal 2: Science and Engineering Focus – 11 cr
CHEM 1711 Principles of Chemistry 1 – 4 cr

Goal 3: Natural Science – 4 cr

Goal 4: Mathematical/Logical Reasoning – 8 cr
MATH 2749 Calculus 1 – 4 cr
MATH 2750 Calculus 2 – 4 cr

Goal 5: History, Social Science and Behavioral Sciences – 3 cr

Goal 6: Humanities and Fine Arts – 3 cr

Goals 1-10 of the Minnesota Transfer Curriculum are met. Students must select a minimum of 5 additional credits such that courses from at least six (6) goal areas of the Minnesota Transfer Curriculum are met.

General Education Requirements 30

Total Program Credits 60

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

- Reading: Score of 78+ or grade of “C” or better in READ 0722
- Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Program Requirements Guide

2018 - 2019

Nanoscience Technology AAS DEGREE
Program Overview

Program Faculty

Course Sequence

This program prepares students for careers in
nanobiotech, nanomaterials and nanoelectronics
industries. The program also provides a strong
foundation applicable to environmental, energy
and agricultural industries. The curriculum is
a combination of classroom and laboratory
experiences, with hands on use of nanoscale
equipment in all 4 semesters. Students have
several opportunities for individual research and
exploration of nanoscale concepts. Offered in
partnership with the University of Minnesota, the
program provides skills and knowledge required
for employment in a large number of companies.
The DCTC program also provides a starting point
to four year degrees at multiple institutions in
many degree programs. Processes of scientific
inquiry, experiment and research design, critical
thinking, and communication are aspects that are
woven into each course.

Travis Mills
Deb Newberry

This course sequence is recommended for a
full-time student; however, this sequence is not
required.

Career Opportunities
Nanoscience technologists work in multiple
business environments including research,
production, testing, training and marketing.
Often this role is a bridge between scientists,
engineers and other technicians. Program
graduates may work independently in some
aspects but most often are part of a team. Your
job will include some desk work but most of your
time will be spent in a laboratory environment
preparing test samples, microscope operation
and testing, documentation and analysis
and communication of your results. These
technologists do not usually do the same thing
for many months at a time. Finally, although
nanoelectronics related jobs may occur in a
clean room, most of these jobs are in traditional
company research environments and labs. The
options and work environments are varied and
expanding with the United States nanotech
market expected to reach $1 trillion by 2015.

Program Outcomes
1. Solve nanoscience technology problems within
economic, environmental, social, political,
ethical, and manufacturability constraints.
2. Explain the potential of nanoscience in
multiple biological applications including
nanopore, nanoparticle and nanochannel
structures, diagnostics and treatment.
3. Relate nanoscale principles to imprint
lithography, etching, nanotransistors, quantum
computing, magnetic and electron spin
memory, and holographic memory devices.
4. Fabricate structures such as nanowires,
cantilevers and nanochannels.
5. Create nanomaterials, particles and crystals
by various processes including colloidal
suspensions, deposition, evaporation and plating

Information is subject to change.
This Program Requirements Guide is not a contract.

160 saintpaul.edu

travis.mills@saintpaul.edu
deb.newberry@dctc.edu

Program Start Dates

Not all courses are offered each semester; a
selection of courses is offered summer term.
Students should consult with the Program Faculty
each semester.

Fall, Spring, Summer

Program Requirements
 Check off when completed
Course

Cr

	NANO 1100 Fundamentals of Nanotechnology 1. .  3
	NANO 1110 Student Lab Experience and Research. .  3
	NANO 1200 Fundamentals of Nanotechnology 2. .  3
	NANO 1210 Computer Simulation . . . . . . . . . . . . .  1
	NANO 2101 Nanoelectronics. . . . . . . . . . . . . . . . . .  3
	NANO 2111 Nanobiotechnology/Agriculture. . . . .  3
	NANO 2121 Nanomaterials. . . . . . . . . . . . . . . . . . .  3
	NANO 2131 Manufacturing Quality Assurance. . . .  2
	NANO 2140 Interdisciplinary Lab. . . . . . . . . . . . . . . 3
	NANO 2151 Career Planning and Industry Tours . .  1
	NANO 2970 Industry Internship. . . . . . . . . . . . . . . .  1
Subtotal. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 26
Second Year – Second Semester
At the University of Minnesota
	MT 3111 Elements of Micro Manufacturing. . . . . . .  3
	MT 3112 Elements of Micro & Nano Man Lab. . . . .  1
	MT 3121 Thin Films Deposition. . . . . . . . . . . . . . . .  3
	MT 3131 Introduction to Materials
Characterization . . . . . . . . . . . . . . . . . . . .  3
	MT 3132 Materials Characterization Lab. . . . . . . . .  1
	MT 3141 Prin & Apps of Bionanotech. . . . . . . . . . .  3
	MT 3142 Nanoparticles & Biotech Lab. . . . . . . . . . .  1
Subtotal. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 15
General Education/MnTC Requirements

Cr

Refer to the Minnesota Transfer Curriculum Course List
for each Goal Area
	Goal 1: Communication. . . . . . . . . . . . . . . . . . . . . .  7
ENGL 1711 Composition 1 – 4 cr
COMM 1720 Interpersonal Communications – 3 cr
	Goal 3: Natural Sciences . . . . . . . . . . . . . . . . . . . .  17
BIOL 1740 General Biology 1 – 5 cr
CHEM 1700 Chemistry Concepts – 4 cr
PHYS 1720 Principles of Physics 1 – 4 cr
PHYS 1722 Principles of Physics 2 – 4 cr
	Goal 4: Mathematics/Logical Reasoning . . . . . . . . .  7
MATH 1730 College Algebra – 3 cr
MATH 1740 Introduction to Statistics – 4 cr
General Education Requirements .  .  .  .  .  .  .  .  .  .  .  . 31

First Semester
NANO 1100 Fundamentals of Nanotechnology 1. . . .  3
Goal 1: ENGL 1711 Composition 1. . . . . . . . . . . . . . . .  4
Goal 3: PHYS 1720 Principles of Physics 1. . . . . . . . . .  4
Goal 3: BIOL 1740 General Biology 1. . . . . . . . . . . . . .  5
Goal 4: MATH 1730 College Algebra. . . . . . . . . . . . . .  3
Total Semester Credits. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 19

Second Semester
NANO 1110 Student Lab Experience and Research . .  3
NANO 1200 Fundamentals of Nanotechnology 2. . . .  3
NANO 1210 Computer Simulation. . . . . . . . . . . . . . . .  1
Goal 1: COMM 1720 Interpersonal Communication . .  3
Goal 3: CHEM 1700 Chemistry Concepts. . . . . . . . . . .  4
Goal 3: PHYS 1722 Principles of Physics 2. . . . . . . . . .  4
Goal 4: MATH 1740 Introduction to Statistics . . . . . . .  4
Total Semester Credits. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 22

Third Semester
NANO 2101 Nanoelectronics. . . . . . . . . . . . . . . . . . . .  3
NANO 2111 Nanobiotechnology/Agriculture . . . . . . .  3
NANO 2121 Nanomaterials . . . . . . . . . . . . . . . . . . . . .  3
NANO 2131 Manufacturing Quality Assurance. . . . . .  2
NANO 2140 Interdisciplinary Lab. . . . . . . . . . . . . . . . .  3
NANO 2151 Career Planning and Industry Tours. . . . .  1
Total Semester Credits. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 15

Fourth Semester – At the University of Minn.
MT 3111 Elements of Microelectronic Manufacturing.  3
MT 3112 Elements of Micro & Nano Manufacturing Lab.1
MT 3121 Thin Films Deposition . . . . . . . . . . . . . . . . . .  3
MT 3131 Introduction to Materials
Characterization . . . . . . . . . . . . . . . . . . . . . .  3
MT 3132 Materials Characterization Lab . . . . . . . . . . .  1
MT 3141 Principles & Applications of Bionanotech. . .  3
MT 3142 Nanoparticles & Biotech Lab. . . . . . . . . . . . .  1
NANO 2970 Industry Internship & Observation. . . . . .  1
Total Semester Credits. .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 16

Total Program Credits .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 72

Minimum Program Entry Requirements
Students entering this program must meet
the following minimum program entry
requirements:

Total Program Credits .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 72

Reading: Score of 78+ or grade of “C” or
better in READ 0722

NANO courses may be offered at Saint Paul College
or Dakota County Technical College

Writing: Score of 78+ on Reading Comprehension
or grade of “C” or better in ENGL 0922

Transfer Opportunities

College Level Mathematics: Score of 50+ or
grade of “C” or better in MATH 0920

Saint Paul College has a transfer articulation
agreement between the following program and postsecondary institution for the baccalaureate degree
program listed below. For more information please go
to saintpaul.edu/Transfer.

Nanoscience Technology AAS
BA

Individualized Studies		
Metropolitan State University

Assessment Results and Prerequisites:
Students admitted into Saint Paul College
programs may need to complete additional
courses based on assessment results and
course prerequisite requirements. Certain
courses in the program have additional
prerequisites.
380A

Saint Paul College—A Community & Technical College • 2018–2019 Catalog


Program Requirements Guide

Engineering Broad Field 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 Engineering Broad Field 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
Engineering occupations are expected to grow by more than 10% through 2020 according to the Bureau of Labor Statistics. Engineering includes careers with branches in civil, agricultural, chemical, electrical, mechanical, and aerospace sciences to name a few. This degree is part of a state-wide articulation program and designed to transfer easily.

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.

Program Requirements
☐ Check off when completed
Course
☐ ENGR 1707 Introduction to Engineering ........ 3
Choose a focus:
Electrical
☐ CHEM 1712 Principles of Chemistry 2 ........... 4
☐ ENGR 1709 Digital Electronics .................... 3
☐ ENGR 1717 Circuit Analysis 1 .................... 4
☐ ENGR 2705 Statics .................................. 3
☐ ENGR 2710 Dynamics ............................ 3
Mechanical or Manufacturing or Composite
☐ CHEM 1712 Principles of Chemistry 2 ........... 4
☐ ENGR 1717 Circuit Analysis 1 .................... 4
☐ ENGR 2705 Statics .................................. 3
☐ ENGR 2710 Dynamics ............................ 3
☐ ENGR 2712 Deformable Body Mechanics .......... 3
Civil
☐ CHEM 1712 Principles of Chemistry 2 ........... 4
☐ ENGR 2705 Statics .................................. 3
☐ ENGR 2710 Dynamics ............................ 3
☐ ENGR 2712 Deformable Body Mechanics .......... 3
☐ ENGR 2715 Thermodynamics ...................... 3
☐ ENGR Elective ...................................... 1
Computer
☐ CSCI 1410 Comp. Science & Info Systems ........ 4
☐ CSCI Electives ...................................... 6
☐ ENGR 1709 Digital Electronics .................... 3
☐ ENGR 1717 Circuit Analysis 1 .................... 4
Integrated
☐ CHEM 1712 Principles of Chemistry 2 ........... 4
☐ ENGR 1717 Circuit Analysis 1 .................... 4
☐ ENGR 2705 Statics .................................. 3
☐ ENGR 2710 Dynamics ............................ 3
☐ ENGR Elective ...................................... 3
Subtotal ............................................. 20
General Education/MnTC Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ............................ 4
ENGL 1711 Composition 1 – 4 cr
☐ Goal 3: Natural Sciences ........................... 14
CHEM 111 Principles of Chemistry 1 – 4 cr
PHYS 2700 General Physics 1 – 5 cr
PHYS 2710 General Physics 2 – 5 cr
☐ Goal 4: Mathematical/Logical Reasoning ........ 16
MATH 2749 Calculus 1 – 4 cr
MATH 2750 Calculus 2 – 4 cr
MATH 2753 Multivariable Calculus – 4 cr
MATH 2760 Differential Equations & Linear Algebra – 4 cr
☐ Goal 5: History, Social Science and Behavioral Sciences ........................................... 3
☐ Goal 6: Humanities and Fine Arts .................... 3
“The course selected for goal area 5 or 6 must also satisfy goal 7, 8, 9, or 10.
General Education Requirements .................. 40
Total Program Credits .............................. 60

Program Faculty
Pam Schumacher pam.schumacher@saintpaul.edu

Part-Time/Full-Time Options
This program can be completed by using a combination of day, evening, Saturday, hybrid, and online courses. Part-time and full-time options are available.

Course Sequence
The course sequence listed on the back of this guide is recommended for a full-time student. Not all courses are offered every semester. Students should consult with the Program Faculty each semester.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain courses in the program have additional prerequisites.
Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a full-time student. Not all courses are offered every semester. Students should consult with the Program Faculty each semester.

First Semester
ENGR 1707 Introduction to Engineering .................. 3
Goal 1: ENGL 1711 Composition 1 ..................... 4
Goal 3: CHEM 1711 Principles of Chemistry 1 ........... 4
Goal 4: MATH 2749 Calculus 1 .......................... 4
Total Semester Credits ................................. 15

Second Semester
Goal 3: CHEM 1712 Principles of Chemistry 2 ........... 4
Goal 3: PHYS 2700 General Physics 1 .................... 5
Goal 4: MATH 2750 Calculus 2 .......................... 4
Goal 5: History, Social Science and Behavioral Sciences ............... 3
Total Semester Credits ................................. 16

Third Semester
ENGR 2705 Statics .................................... 3
Goal 3: PHYS 2710 General Physics 2 .................... 5
Goal 4: MATH 2753 Multivariable Calculus ............... 4
Goal 6: Humanities and Fine Arts ......................... 3
Total Semester Credits ................................. 15

Fourth Semester
ENGR 1717 Circuit Analysis ................................ 4
ENGR 2710 Dynamics .................................. 3
ENGR 2712 Deformable Body Mechanics .................. 3
Goal 4: MATH 2760 Differential Equations & Linear Algebra ........... 4
Total Semester Credits ................................ 14

Total Program Credits ................................. 60

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.
For more information please go to saintpaul.edu/Transfer.

**Engineering Broad Field AS**
- BS Composite Materials Engineering
  Winona State University
- BS Computer Engineering
  Saint Cloud State University
- BS Electrical Engineering
  Saint Cloud State University
- BS Manufacturing Engineering
  Saint Cloud State University
- BS Mechanical Engineering
  Saint Cloud State University
- BSCE Civil Engineering
  Minnesota State University-Mankato
- BSE General Engineering
  Minnesota State University-Mankato
- BSE Integrated Engineering
  Minnesota State University-Mankato
  *offered at Normandale location
- BSEE Electrical Engineering
  Minnesota State University-Mankato
- BSEC Computer Engineering
  Minnesota State University-Mankato
- BSME Mechanical Engineering
  Minnesota State University-Mankato
Computer Graphics and Visualization AS 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 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 preciseness, and should enjoy working 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 web design.
2. Graduates will have knowledge and skills in computer animation.
3. Graduates will have knowledge and skills in digital sound and video production.
4. Graduates will have knowledge and skills in digital photography.
5. Graduates of this program may choose to continue their education at a four-year institution in computer graphics, technical communication or a related field.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Computer Graphics and Visualization AS

| BA | Individualized Studies | Metropolitan State University |
| BA | Technical Communication and Professional Writing | Metropolitan State University |
| BS | Information Technology | Saint Mary’s University-Twin Cities Campus |

Program Faculty
Darren Pearson darren.pearson@saintpaul.edu

Recommended Equipment
Digital Camera, USB Drive, Adobe Software

Estimated Book Cost
$50 - $75 per class

Program Requirements
☐ Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CSCI 1450 Web Fundamentals/HTML</td>
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<tr>
<td>DGIM 1400 Introduction to Computer Graphics</td>
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<td>DGIM 1443 Graphical Web Design 1</td>
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<td>2</td>
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<td>DGIM 1484 Photoshop 2</td>
<td>2</td>
</tr>
<tr>
<td>DGIM 1540 Blogging Applications</td>
<td>2</td>
</tr>
<tr>
<td>DGIM 2586 Digital Sound</td>
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<td>DGIM 2587 Digital Video 1</td>
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<td>Technical Electives</td>
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General Education/MnTC Requirements

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<th>Course</th>
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<tr>
<td>Goal 1: Communication</td>
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<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
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<tr>
<td>COMM 17XX – 3 cr</td>
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<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
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<td>Goal 5: History, Social Science and Behavioral Sciences</td>
<td>4</td>
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<tr>
<td>Goal 6: Humanities and Fine Arts</td>
<td>7</td>
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<tr>
<td>ARTS 1713 Photography 1 – 3 cr (recommended)</td>
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<tr>
<td>Goals 1-10 of the Minnesota Transfer Curriculum</td>
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<tr>
<td>Select a minimum of 9 additional credits</td>
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<td>General Education Requirements</td>
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<tr>
<td>Total Program Credits</td>
<td>60</td>
</tr>
</tbody>
</table>

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student; however, this sequence is not required. Contact the Program Faculty with questions.

First Semester
CSCI 1450 Web Fundamentals/HTML 4
DGIM 1400 Introduction to Computer Graphics 4
DGIM 1443 Graphical Web Design 1 2
Goal 1: ENGL 1711 Composition I 4
Goal 1: COMM 17XX 3
Total Semester Credits 17

Second Semester
DGIM 1448 Flash 1 2
DGIM 1483 Photoshop 1 2
DGIM 1540 Blogging Applications 2
Goal 5: History, Social Science and Behavioral Sciences 4
Goal 6: Humanities and Fine Arts 3
Total Semester Credits 13

Third Semester
DGIM 1484 Photoshop 2 2
DGIM 2586 Digital Sound 2
Goal 4: Mathematical/Logical Reasoning 3
Goal 6: Humanities and Fine Arts 4
Technical Electives 4
Total Semester Credits 15

Fourth Semester
DGIM 2587 Digital Video 1 2
MnTC Electives 2
Technical Electives 4
Total Semester Credits 15

Total Program Credits 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Visualization Technology 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 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 web design.
2. Graduates will have knowledge and skills in digital photography.
3. Graduates will have knowledge and skills in digital sound and video production.
4. Graduates will have developed an online portfolio of work.
5. Graduates will have knowledge of freelancing and self-employment business practices

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Visualization Technology AAS
BA Individualized Studies
Metropolitan State University
BS Information Technology
Saint Mary’s University-Twin Cities Campus
BS Marketing
Saint Mary’s University-Twin Cities Campus
BS Operations Management
Minnesota State University-Moorhead

Program Faculty
Darren Pearson  darren.pearson@saintpaul.edu

Part-Time/Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Recommended Equipment
USB Drive, Digital Camera, Adobe Software

Estimated Book Cost
$50 - $75 per class

Program Requirements
☐ Check off when completed

Course                             Cr
☐ CSCI 1450 Web Fundamentals/HTML        4
☐ DGIM 1400 Introduction to Computer Graphics  4
☐ DGIM 1448 Flash 1                        2
☐ DGIM 1449 Flash 2                        2
☐ DGIM 2560 Illustrator                    4
☐ DGIM 2569 Digital Portfolio Development  2
☐ DGIM 2587 Digital Video 1                2
☐ DGIM 2588 Digital Video 2                2
☐ Technical Electives                      6
Any 6 credits in DGIM or CSCI; ensure technical elective is not part of selected emphasis
Subtotal.                                    28

Select one of the emphases listed below

Web Emphasis
☐ CSCI 1470 Web Design                     4
☐ DGIM 1443 Graphical Web Design 1         2
☐ DGIM 1444 Graphical Web Design 2         2
☐ DGIM 1483 Photoshop 1                    2
☐ DGIM 1484 Photoshop 2                    2
Total Emphasis Credits                     12

Animation Emphasis
☐ DGIM 1490 3D Animation Fundamentals    4
☐ DGIM 2520 3D Character Animation        4
☐ DGIM 2704 3D Animation Capstone         4
Total Emphasis Credits                     12

General Education/MnTC Requirements      Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication                    7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 4: Mathematics/Logical Reasoning    3
MATH 1730 College Algebra – 3 cr OR
PHIL 1710 Logic – 3 cr
☐ Goal 5: History, Social Science and
Behavioral Sciences                       3
☐ Goal 6: Humanities and Fine Arts.        3
☐ Goals 1-10 of the Minnesota Transfer Curriculum .  4
Select a minimum of 4 additional credits
General Education Requirements            20
Total Program Credits                     60

Program Start Dates
Fall, Spring

Course Sequence
The following course sequence is recommended; however, this sequence is not required. Contact the Program Faculty with questions.

First Semester
CSCI 1450 Web Fundamentals/HTML        4
DGIM 1400 Introduction to Computer Graphics  4
DGIM 1448 Flash 1                        2
Goal 1: ENGL 1711 Composition I          4
Total Semester Credits                    14

Second Semester
DGIM 1449 Flash 2                        2
DGIM 2560 Illustrator                    4
Goal 1: COMM 17XX                        3
Goal 5: History, Social and Behavioral Sciences.  3
Emphasis Course                          4
Total Semester Credits                    16

Third Semester
DGIM 2569 Digital Portfolio Development  2
DGIM 2587 Digital Video 1                2
Goal 4: MATH 1730 College Algebra OR
PHIL 1710 Logic                         3
Emphasis Course                          4
Technical Elective(s).                   2
Total Semester Credits                    15

Fourth Semester
DGIM 2588 Digital Video 2                2
Goal 6: Humanities and Fine Arts.         3
MnTC Electives                           4
Emphasis Course                          4
Total Semester Credits                    15

Total Program Credits                     60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
College Level Mathematics: Score of 50+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
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.

This certificate option is available for students who may choose not to complete the entire AAS degree and gain some experience with courses used in computer graphics, particularly courses in the Adobe software suite.

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 basic skills to create documents with Adobe Illustrator.
2. Graduates will have basic skills to create websites using Adobe Dreamweaver.
3. Graduates will have basic skills for using Adobe Photoshop as a creative media.
4. Graduates will have the basic skills to create basic animations.
5. Graduates of this certificate may choose to continue with the AA or AAS degree in Visualization or a 4-year transfer opportunity is available.

Program Faculty
Darren Pearson     darren.pearson@saintpaul.edu

Course Offering Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Recommended Equipment
Digital Camera, USB Drive, Adobe Software

Estimated Book Cost
$50 - $75 per class

Program Requirements
☐ Check off when completed

Course                  Cr
☐ DGIM 1400 Introduction to Computer Graphics ... 4
☐ DGIM 1443 Graphical Web Design 1 .............. 2
☐ DGIM 1448 Flash 1 .................................. 2
☐ DGIM 1483 Photoshop 1  ....................... 2
☐ DGIM 2560 Illustrator  ....................... 4
Subtotal ................................. 14
☐ Technical Electives ............................. 4
☐ General Education Requirements ......... 3
☐ Goal 6: Humanities and Fine Arts
☐ ARTS 17XX (recommended)

Total Program Credits  .......... 21

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended; however, this sequence is not required. Contact the Program Faculty with questions.

First Semester
DGIM 1400 Introduction to Computer Graphics ........ 4
DGIM 1443 Graphical Web Design 1 .............. 2
DGIM 1448 Flash 1 .................................. 2
DGIM 1483 Photoshop 1  ....................... 2
Total Semester Credits  ......................... 10

Second Semester
DGIM 2560 Illustrator .......................... 4
Technical Electives ............................. 4
Goal 6: ARTS 17XX recommended ................ 3
Total Semester Credits  ......................... 11

Total Program Credits  .......... 21

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
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 Blender, Flash, Premiere Pro, After Effects 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 Outcomes
1. Graduates will have extensive knowledge and skills in computer animation using Blender.
2. Graduates will have knowledge and skills in computer animation using other various 3D animation tools.
3. Graduates will have knowledge and skills in basic video production.

Program Faculty
Darren Pearson  darren.pearson@saintpaul.edu

Course Offering Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Recommended Equipment
Digital Camera, USB Drive, Adobe Software

Program Requirements
☐ Check off when completed

Course                                Cr
☐ DGIM 1490 3D Animation Fundamentals   4
☐ DGIM 2520 3D Character Animation       4
☐ DGIM 2587 Digital Video 1              2
☐ DGIM 2588 Digital Video 2              2
☐ DGIM 2704 3D Animation Capstone       4
☐ DGIM XXXX                             2
(Select any 2 credits in DGIM not already required for this program)

Total Program Credits  . . . . . . . . . . . . . . . . . . 18

Program Start Dates
Fall, Spring

Course Sequence
The following course sequence is recommended; however, this sequence is not required. Contact the Program Faculty with questions.

First Semester
DGIM 1490 3D Animation Fundamentals  4
DGIM XXXX  2
(Select any 2 credits in DGIM not already required for this program)

Total Semester Credits  . . . . . . . . . . . . . . . . . . 6

Second Semester
DGIM 2520 3D Character Animation  4
DGIM 2587 Digital Video 1  2
DGIM 2588 Digital Video 2  2

Total Semester Credits  . . . . . . . . . . . . . . . . . . 8

Third Semester
DGIM 2704 3D Animation Capstone  4

Total Semester Credits  . . . . . . . . . . . . . . . . . . 4

Total Program Credits  . . . . . . . . . . . . . . . . . . . . . . . 18

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 38+
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Web Design CERTIFICATE

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

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

Career Opportunities
The computer graphics field relates to many jobs in the multimedia area including but not limited to:
• Web Designer
• Web Developer

Program Outcomes
1. Graduates will have knowledge of front-end, web design software packages.
2. Graduates will have knowledge of back-end, web development software languages.
3. Graduates will have knowledge of usability, accessibility and search engine optimization practices.

Program Faculty
Darren Pearson  darren.pearson@saintpaul.edu

Recommended Equipment
USB Drive, Digital Camera, Adobe Software

Program Requirements
☑ Check off when completed
Course             Cr
☐ CSCI 1450 Web Fundamentals/HTML ................ 4
☐ CSCI 1470 Web Design .............................. 4
☐ CSCI 2440 Client Side Programming 1 ............ 4
☐ DGIM 1443 Graphical Web Design 1 ............... 2
☐ DGIM 1448 Flash 1 .................................. 2
☐ DGIM 2521 2D Web Animation ..................... 2
Total Program Credits .................................. 18

Program Start Dates
Fall, Spring

Course Sequence
The following course sequence is recommended; however, this sequence is not required. Contact the Program Faculty with questions.

First Semester
CSCI 1450 Web Fundamentals/HTML .................. 4
DGIM 2521 2D Web Animation ......................... 2
Total Semester Credits .................................. 6

Second Semester
CSCI 1470 Web Design ................................. 4
DGIM 1443 Graphical Web Design 1 .................. 2
DGIM 1448 Flash 1 .................................... 2
Total Semester Credits .................................. 8

Third Semester
CSCI 2440 Client Side Programming 1 ............... 4
Total Semester Credits .................................. 4
Total Program Credits .................................. 18

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Degree option may have a greater requirement than this certificate.
CyberSecurity AAS DEGREE

Program Overview
CyberSecurity professionals work in a wide variety of information technology positions, but have a focus on information assurance, cyber ethics, and incident detection, investigation and response. Students completing this degree will be able to investigate and defend computer systems against cyber-attacks, unauthorized use or modification, and exploitation.

Students entering into this program of study should have excellent communication, reading and math skills. Throughout the program students will experience coursework that will help them develop skills such as critical thinking, performance monitoring, decision making and evaluating systems and organizations.

The CyberSecurity program at Saint Paul College is 60 credits in length. The program provides 16 credits specifically related to CyberSecurity which will aid students in the field and in potential certifications.

Career Opportunities
CyberSecurity professionals will find a growing need in both public and private employment sectors. Graduates will find excellent opportunities as systems administrators, network engineers, system programmers, and systems specialists.

Program Outcomes
1. Graduates will have knowledge and skills in system design, analysis and maintenance.
2. Graduates will have the skills to gather, monitor, and analyze multiple sources of data to identify changes in circumstances or events.
3. Graduates will have the skills to evaluate information to determine compliance with security standards.
4. Graduates of the CyberSecurity program will be prepared for employment as information Security Analysts or Computer Systems Analysts.

Program Requirements
☐ Check off when completed

Course    Cr
☐ CSCI 1410 Computer Science & Information Systems ................................. 4
☐ CSCI 1423 Computer Networking 1 – Client .................................. 4
☐ CSCI 1440 Networking Fundamentals ............................................... 4
☐ CSCI 1523 Intro to Computing and Programming Concepts ............... 4
☐ CSCI 2420 Computer Security ......................................................... 4
☐ CSCI 2451 Computer Networking 2 – Serve .................................. 4
☐ CSCI 2461 Computer Networking 3 – Linux ................................... 4
☐ CSCI 2465 Computer Networking 4 – Infrastructure ....................... 4
☐ CSCI 2480 Network Security and Penetration Prevention .................. 4
☐ CSCI 2482 Incident Handling, Response and Disaster Recovery .......... 4
☐ CSCI 2484 Ethical Hacking & Countermeasures ............................ 4
Subtotal ................................................................. 44

General Education/MnTC Requirements    Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ......................................................... 7
ENGL 1711 Composition 1 – 4 cr
 COMM 17XX – 3 cr
☐ Goal 3 or Goal 4  ................................................................. 3
☐ Goal 3: Natural Sciences OR
Goal 4: Mathematical /Logical Reasoning
☐ Goal 5: History, Social Science and Behavioral Sciences ................. 3
☐ Goal 6: Humanities and Fine Arts ........................................... 3
General Education Requirements .............. 16

Total Program Credits .......................... 60

Program Faculty
Mark Rawlings  mark.rawlings@saintpaul.edu
James Woodcock  james.woodcock@saintpaul.edu

Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a full-time student; however, this sequence is not required.
Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
CSCI 1410 Computer Science & Information Systems ................................ 4
CSCI 1423 Computer Networking 1 – Client ..................................... 4
CSCI 1440 Networking Fundamentals ............................................. 4
Goal 1: ENGL 1711 Composition 1 .................................. 4
Total Semester Credits ............................................................... 16

Second Semester
CSCI 1523 Intro to Computing and Programming Concepts .................. 4
CSCI 2451 Computer Networking 2 – Server .................................. 4
CSCI 2461 Computer Networking 3 – Linux ................................... 4
Goal 6: Humanities and Fine Arts ........................................... 4
Total Semester Credits ............................................................... 15

Third Semester
CSCI 2420 Computer Security ......................................................... 4
CSCI 2465 Computer Networking 4 – Infrastructure ....................... 4
Goal 1: COMM 17XX ............................................................... 3
Goal 3: Natural Sciences OR
Goal 4: Mathematical /Logical Reasoning .................................. 3
Total Semester Credits ............................................................... 14

Fourth Semester
CSCI 2480 Network Security and Penetration Prevention .................. 4
CSCI 2482 Security and Incident Handling Response and Disaster Recovery .................. 4
CSCI 2484 Ethical Hacking & Countermeasures ................................ 4
Goal 5: History, Social Science and Behavioral Sciences .................. 3
Total Semester Credits ............................................................... 15

Total Program Credits .......................... 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of "C" or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of "C" or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of "C" or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

See back of this guide for Course Chart

332A (7203)
CyberSecurity AAS DEGREE (continued)
(44 credits + 16 GenEd credits)

The below chart illustrates the courses required for completion of this degree.

**Introductory**
- CSCI 1423 Computer Networking 1 - Client
- CSCI 1410 Computer Science Information System
- CSCI 1440 Networking Fundamentals

**Intermediate**
- CSCI 2451 Computer Networking 2 - Server
- CSCI 2461 Computer Networking 3 - Linux
- CSCI 2420 Computer Security
- CSCI 2465 Computer Networking 4 - Infrastructure
- CSCI 1523 Intro to Computing and Prog Concepts

**Advanced**
(offer once per year)
- CSCI 2480 Network Security and Penetration Prevention
- CSCI 2482 Security Incident Handling, Response and Disaster Recovery
- CSCI 2484 Ethical Hacking & Countermeasures
CyberSecurity CERTIFICATE

Program Overview
Note: Students must have completed the Computer Network Engineering AAS degree or have instructor approval.

CyberSecurity professionals work in a wide variety of information technology positions, but have a focus on information assurance, cyber ethics, and incident detection, investigation and response. Students completing this degree will be able to investigate and defend computer systems against cyber-attacks, unauthorized use or modification, and exploitation.

Students entering into this program of study should have excellent communication, reading and math skills. Throughout the program students will experience coursework that will help them develop critical skills such as critical thinking, performance monitoring, decision making and evaluating systems and organizations.

The CyberSecurity certificate program at Saint Paul College is 24 credits in length. The program provides 16 credits specifically related to CyberSecurity which will aid students in the field and in potential certifications.

Career Opportunities
CyberSecurity professionals will find a growing need in both the public and private employment sectors. Graduates will find excellent opportunities as systems administrators, network engineers, system programmers, and systems specialists.

Program Outcomes
1. Graduates will have knowledge and skills in system design, analysis and maintenance.
2. Graduates will have the skills to gather, monitor, and analyze multiple sources of data to identify changes in circumstances or events.
3. Graduates will have the skills to evaluate information to determine compliance with security standards.
4. Graduates of the CyberSecurity program will be prepared for employment as Information Security Analyst or Computer Systems Analysts.

Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1440 Networking Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2420 Computer Security</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2451 Computer Networking 2 - Server</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2480 Network Security and Penetration</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2482 Security Incident Handling, Response and Disaster Recovery</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2484 Ethical Hacking &amp; Countermeasures</td>
<td>4</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Total Program Credits: 24

Program Faculty
Mark Rawlings mark.rawlings@saintpaul.edu
James Woodcock james.woodcock@saintpaul.edu

Program Start Dates
Fall, Spring

Course Sequence
This course sequence is recommended for a full-time student; however, this sequence is not required.

Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
- CSCI 1440 Networking Fundamentals ............ 4
- CSCI 2420 Computer Security  ................... 4
- CSCI 2451 Computer Networking 2 - Server ........ 4
Total Semester Credits: 12

Second Semester
- CSCI 2480 Network Security and Penetration Prevention .................. 4
- CSCI 2482 Security and Incident Handling Response and Disaster Recovery  ........ 4
- CSCI 2484 Ethical Hacking & Countermeasures ...... 4
Total Semester Credits: 12

Total Program Credits: 24

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Students enrolling in the Certificate should have previous networking experience or consider taking additional networking courses as identified by the instructor/advisors.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Computer Science Transfer Pathway AS DEGREE

Program Overview
The Computer Science Transfer Pathway AS Degree is designed to provide students with opportunities for immediate employment or for transfer to four-year institutions. The College has developed articulation agreements with four-year institutions to assist students with their transfer goals. See a Pathway Advisor for further information.

Students planning a career in this area should have above average mathematic 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.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Program Faculty
Warren Sheaffer  warren.sheaffer@saintpaul.edu

Part-time/Full-time Options
Some day and evening class availability. Students may attend full-time or part-time.

Program Requirements
☐ Check off when completed

Course
☐ CSCI 1410 Computer Science & Information Systems .......................... 4
☐ CSCI 1523 Intro to Computing and Programming Concepts ................. 4
☐ CSCI 1524 Intro to Algorithms and Data Structures .......................... 4
☐ CSCI 1533 ANSI C Language Programming ................................ 2
☐ CSCI 1541 Java Programming 1 .............................................. 4
☐ CSCI 2460 Discrete Structures of Computer Science .......................... 4
☐ CSCI 2469 Advanced Programming Principles ............................. 4
☐ CSCI 2570 Machine Architecture & Organization ........................... 4
Subtotal .......................... 30

General Education/MnTC Requirements
☐ Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ....................................................... 9
☐ Goal 2: Science ................................................................ 4
☐ Goal 3: Natural Sciences ..................................................... 5
☐ Goal 4: Mathematical/Logical Reasoning ............................... 8
☐ Goal 5: History, Social Science and Behavioral Sciences .......... 3
☐ Goal 6: Humanities and Fine Arts ....................................... 3
☐ Goals 1-10 of the Minnesota Transfer Curriculum ................. 2
Select a minimum of 2 additional credits.
Students must select courses from at least six (6) Goal Areas of the Minnesota Transfer Curriculum.

General Education Requirements .................................. 30

Total Program Credits .................................. 60

* Please refer to specific articulation agreements to determine the best mathematics option.

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student. Not all courses are offered each semester.

First Semester
CSCI 1410 Computer Science & Information Systems ......................... 4
Goal 1: ENGL 1711 Composition 1 .......................................... 4
Goal 4: MATH 2749 Calculus 1 ................................................ 4
Goals 1-10 of the Minnesota Transfer Curriculum .......................... 2
Total Semester Credits ..................................................... 14

Second Semester
CSCI 1523 Intro to Computing and Programming Concepts .............. 4
Goal 3: PHYS 2700 General Physics 1 ...................................... 5
Goal 4: MATH 2750 Calculus 2 or MATH 1740 Intro to Statistics .... 4
Goal 5: History, Social Sciences, Behavioral ............................... 3
Total Semester Credits ..................................................... 16

Third Semester
CSCI 1533 ANSI C Language Programming .................................. 2
CSCI 1541 Java Programming 1 .............................................. 4
CSCI 2570 Machine Architecture & Organization ........................... 4
Total Semester Credits ..................................................... 15

Fourth Semester
CSCI 1524 Intro to Algorithms and Data Structures ....................... 4
CSCI 2460 Discrete Structures of Comp Science ........................... 4
CSCI 2469 Advanced Programming Principles ............................. 4
Goal 6: Humanities and Fine Arts ....................................... 3
Total Semester Credits ..................................................... 15

Total Program Credits .................................. 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

TPCS
Computer Science Transfer Pathway  AS DEGREE (continued)
(30 credits + 30 GenEd credits)

The below chart illustrates the courses required for completion of this degree.

Introductory

Intermediate

Advanced

CSCI 1410
Computer Science & Information Systems

CSCI 1523
Intro to Computing and Programming Concepts

CSCI 1533
ANSI C Language Programming

CSCI 1524
Intro to Algorithms and Data Structures

CSCI 2469
Advanced Programming Principles

CSCI 2460
Discrete Structures of Comp Science

CSCI 1541
Java Programming 1

CSCI 2570
Machine Architecture & Organization
Management Information Systems AS DEGREE

Program Overview
The Associate of Science Degree in Management Information Systems is designed to provide students with opportunities for immediate employment or for transfer to four-year institutions. 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 mathematic reasoning and communication skills. Students should exhibit qualities of patience, perseverance, and preciseness, and should enjoy working in a team environment.

Career Opportunities
A management information system degree prepares the student for a career that combines business techniques and computer systems capability. Students study how to provide 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.

Program Faculty
Warren Sheaffer    warren.sheaffer@saintpaul.edu

Part-time and Full-time Options
This program can be completed by using a combination of day, evening, and Saturday courses. Part-time and full-time options are available.

Program Requirements
☐ Check off when completed

Course          Cr
☐ ACCT 2410 Financial Accounting .................. 4
☐ BUSN 2110 Principles of Marketing ................. 3
☐ BUSN 2450 Management Fundamentals ............. 3
☐ CSCI 1410 Computer Science & Information Systems ................................................. 4
☐ CSCI 1450 Web Fundamentals/HTML ............. 4
☐ CSCI 1523 Intro to Computing and Programming Concepts ......................................... 4
☐ CSCI 1550 Database Management Fundamentals .... 4
☐ CSCI 2410 Management Information Systems .... 3

Subtotal ........................................ 29

General Education/MnTC Requirements          Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ............................. 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 4: Mathematical/Logical Reasoning ....... 7-8
MATH 1740 Introduction to Statistics – 4 cr
MATH 1730 College Algebra – 3 cr OR
MATH 2749 Calculus 1 – 4 cr
☐ Goal 5: History, Social Science and Behavioral Sciences ........................................... 6
ECON 1720 Macroeconomics – 3 cr
ECON 1730 Microeconomics – 3 cr
☐ Goals 1-10 of the Minnesota Transfer Curriculum .......................................................... 10-11
Select a minimum of 10-11 additional credits
Students must select courses from at least six (6)
Goal Areas of the Minnesota Transfer Curriculum.
General Education Requirements .......................................................... 31

Total Program Credits ........................................... 60

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Management Information Systems AS
BA Individualized Studies
Metropolitan State University
BS Computer Information Systems
College of St. Scholastica
BS Information Technology
Saint Mary’s University-Twin Cities Campus
BS Management Information Systems
Metropolitan State University

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student. Not all courses are offered each semester.

First Semester
BUSN 2450 Management Fundamentals ............. 3
CSCI 1410 Computer Science & Info Systems .... 4
Goal 1: ENGL 1711 Composition 1 .................. 4
Goal 4: MATH 1730 College Algebra OR
MATH 2749 Calculus 1 ................................ 3-4
Total Semester Credits .................................. 14-15

Second Semester
ACCT 2410 Financial Accounting .................... 4
BUSN 2110 Principles of Marketing .................. 3
CSCI 1523 Introduction to Computing and Programming Concepts .................................... 4
Goal 4: MATH 1740 Introduction to Statistics .... 4
Total Semester Credits .................................. 17

Third Semester
CSCI 1450 Web Fundamentals/HTML ............. 4
CSCI 1550 Database Management Fundamentals .......... 4
Goal 5: ECON 1720 Macroeconomics ............. 3
MnTC Electives ......................................... 7-8
Total Semester Credits .................................. 13-14

Fourth Semester
CSCI 2410 Management Information Systems .... 3
Goal 5: ECON 1730 Microeconomics ............ 3
MnTC Electives ......................................... 7-8
Total Semester Credits .................................. 60

See back of this guide for Course Chart

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
The below chart illustrates the courses required for completion of this degree.

**Introductory**

- **CSCI 1410** Computer Science & Information Systems
- **CSCI 1450** Web Fundamentals/HTML
- **ACCT 2410** Financial Accounting
- **BUSN 2110** Principles of Marketing

**Intermediate**

- **CSCI 1523** Intro to Computing and Programming Concepts
- **CSCI 1550** Database Management Fundamentals
- **BUSN 2450** Management Fundamentals

**Advanced** (offered once per year)

- **CSCI 2410** Management Information Systems
Program Overview
Networking Specialists can work in a wide variety of jobs. The work could include purchasing, installing, configuring, administering and/or supporting. Some jobs in networking could include computer network 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.

Career Opportunities
With almost every size company connected to some type of network, the jobs in networking have become the fastest growing jobs 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 for all types of installations are found throughout the country with opportunities for excellent earnings and rapid advancement. Jobs include the following:

• Networking Engineer
• Network Help Desk Support
• Datacommunications Specialist
• PC Network Administrator
• Information Specialist
• WAN Manager Network Administrator
• LAN Specialist
• Telecommunications Specialist
• Certified Network Engineer
• LAN 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  AAS DEGREE (continued)
(44 credits + 16 GenEd credits)

The below chart illustrates the courses required for completion of this degree.

Introductory

- CSCI 1423 Computer Networking 1 - Client
- CSCI 1410 Computer Science & Information Systems
- CSCI 1440 Networking Fundamentals

Intermediate

- CSCI 2451 Computer Networking 2 - Server
- CSCI 2461 Computer Networking 3 - Linux
- CSCI 1523 Intro to Computing and Programming Concepts
- CSCI 2465 Computer Networking 4 - Infrastructure
- CSCI 2475 A+ Hardware/Operating System Preparation

Advanced

- CSCI 2453 Computer Virtualization
- CSCI 2420 Computer Security
- CSCI 2570 Machine Architecture & Organization

(offered once per year)
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.

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

Program Faculty
Warren Sheaffer warren.sheaffer@saintpaul.edu

Program Requirements
☐ Check off when completed
Course Cr
☐ CSCI 1410 Computer Science & Information Systems 4
☐ CSCI 1423 Computer Networking – Client 4
☐ CSCI 1450 Web Fundamentals/HTML 4
☐ CSCI 1523 Intro to Computing and Programming Concepts 4
☐ CSCI 1524 Intro to Algorithms and Data Structures 4
☐ CSCI 2570 Machine Architecture and Organization 4
☐ Technical Electives 4
Select one of the courses listed below. Ensure that your elective is not part of your chosen emphasis:
☐ CSCI 1541 Java Programming 1 4
☐ CSCI 1531 Objective-C Programming 4
☐ CSCI 1550 Database Management Fundamentals 4
☐ CSCI 2440 Client Side Programming 1 (required for the Web Based 2D Game Development Emphasis) 4
☐ CSCI 2442 Server Side Programming 4
☐ CSCI 2560 Introduction to Computer Games 4
Subtotal 28

Complete one of the Emphases listed below 16
Java Program Emphasis
☐ CSCI 1541 Java Programming 1 4
☐ CSCI 1542 Java Programming 2 4
☐ CSCI 1550 Database Management Fundamentals 4
☐ CSCI 2466 J2EE-JSP and Servlets 4
Total Emphasis Credits 16

Web Development Emphasis
☐ CSCI 2440 Client Side Programming 1 4
☐ CSCI 2442 Server Side Programming 4
☐ CSCI Technical Electives 8
☐ CSCI 2466 J2EE-JSP and Servlets 4
☐ CSCI 2621 Ruby on Rails 4
☐ CSCI 2622 Client Side Programming 2 4
Total Emphasis Credits 16

Mobile Development Emphasis
☐ CSCI 1531 Objective-C Programming 4
☐ CSCI 1541 Java Programming 1 4
☐ CSCI 2628 Programming IOS Devices 4
☐ CSCI 2629 Programming Android Devices 4
Total Emphasis Credits 16

Web Based 2D Game Development Emphasis
☐ DGIM 2521 2D Web Animation 2
☐ DGIM 2530 Web Based Game Design 1 4
☐ DGIM 2531 Web Based Game Design 2 4
☐ DGIM 2556 Digital Sound 2
☐ DGIM Technical Electives 4
☐ DGIM 1490 3D Animation Fundamentals 4
☐ DGIM 2560 Illustrator 4
☐ DGIM 1483 Photoshop 1 2
☐ DGIM 1484 Photoshop 2 2
Total Emphasis Credits 16

Enterprise Emphasis
☐ CSCI 1544 Enterprise Operating Systems 4
☐ CSCI 1546 COBOL Programming 1 4
☐ CSCI 1547 COBOL Programming 2 4
☐ CSCI 2470 Enterprise Database Systems 4
☐ CSCI 2472 Enterprise Transaction Processing (CICS) 4
Total Emphasis Credits 16

General Education Requirements
☐ Goal 1: Communication 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 3: Natural Sciences OR
Goal 4: Mathematical/Logical Reasoning
☐ Goal 5: History, Social Science and Behavioral Sciences 3
☐ Goal 6: Humanities and Fine Arts 3
General Education Requirements 16

Total Program Credits 60

See back of this guide for Course Sequence, Transfer Opportunities and Chart

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Computer Programming AAS Degree (44 credits + 16 GenEd credits)

The below chart illustrates the courses required for completion of this degree.

**Introductory**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
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<tbody>
<tr>
<td>CSCI 1410</td>
<td>Computer Science &amp; Information Systems</td>
</tr>
<tr>
<td>CSCI 1423</td>
<td>Computer Networking 1 - Client</td>
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<tr>
<td>CSCI 1450</td>
<td>Web Fundamentals/HTML</td>
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**Intermediate**

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<th>Course Code</th>
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<td>CSCI 1523</td>
<td>Technical Elective</td>
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<tr>
<td>CSCI XXXX</td>
<td>Programming Technical Elective</td>
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</table>

**Advanced**

<table>
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<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1524</td>
<td>Intro to Algorithms and Data Structures</td>
<td></td>
</tr>
<tr>
<td>CSCI 2570</td>
<td>Machine Architecture &amp; Organization</td>
<td></td>
</tr>
<tr>
<td>CSCI XXXX</td>
<td>Advanced Programming Course</td>
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</tr>
</tbody>
</table>

**Transfer Opportunities**

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

**Computer Programming AAS**

- BA Individualized Studies  
  Metropolitan State University
- BS Computer Information Systems  
  College of St. Scholastica
- BS Information Technology  
  Saint Mary’s University-Twin Cities Campus
- BS Operations Management  
  Minnesota State University-Moorhead
Program Overview
The Enterprise Computing Certificate at Saint Paul College is offered in cooperation with the IBM Academic Initiative, a global program that facilitates the collaboration between IBM and educators to teach students the skills they need to be competitive within the rapidly changing information technology landscape. The program provides students with a global understanding of IBM System Z with an emphasis on system administration and ZOS, COBOL programming, CICS and Transaction Processing Systems, DB2 administration and application development.

Major companies around the world run their critical applications on large and midrange systems, such as mainframes, Power Systems, blades, and rack and cluster systems. Mainframe computing systems are transforming businesses and systems around the world. The mainframe is driving areas in cloud computing, analytics, security and mobile computing and are tackling challenges never thought possible. The need for technical skills on enterprise systems continues to grow, and students with knowledge and hands-on experience are sought after in the job market.

Career Opportunities
The IBM Academic Initiative System Z program seeks to ensure that the next generation of mainframe experts will be available to help more companies and organizations leverage the superior security, availability, scalability, and efficiency of the mainframe. The demand for IT skills is growing, especially for students who have mainframe or enterprise computing skills.

Students graduating with the Enterprise Computing Certificate will learn valuable skills that will qualify them for jobs with some of the largest, and most successful companies in Banking, Insurance, Healthcare, and Information Technology. Positions that students will be able to fill include System Engineer, Mainframe Operator, Information Security Specialist, and more.

Program Outcomes
1. Create COBOL applications in a zEnterprise system.
2. Create VSAM clusters to support basic file maintenance applications.
3. Integrate an IBM DB2 enterprise database with a COBOL DB2 API applications.
4. Code and test COBOL DB2 dynamic SQL interactive applications.
5. Explain the relationship between zEnterprise hardware concepts, z/OS operating system concepts, and interactive facilities such as TSO/E, ISPF, and UNIX.
6. Develop COBOL application programs that incorporate access to a DB2 database and implement transaction processing using CICS.

Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tr>
<td>CSCI 1410 Computer Science and Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1544 Enterprise Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1546 COBOL Programming 1</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1547 COBOL Programming 2</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2470 Enterprise Database Systems</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2472 Enterprise Transaction Processing (CICS)</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Program Credits 28

Program Faculty
Warren Sheaffer  warren.sheaffer@saintpaul.edu

Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a part-time student; however, this sequence is not required.
Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester
CSCI 1410 Computer Science and Information Systems 4
CSCI 1423 Computer Networking 1 - Client 4
Total Semester Credits 8

Second Semester
CSCI 1544 Enterprise Operating Systems 4
CSCI 1546 COBOL Programming 1 4
Total Semester Credits 8

Third Semester
CSCI 1547 COBOL Programming 2 4
CSCI 2472 Enterprise Transaction Processing (CICS) 4
Total Semester Credits 8

Fourth Semester
CSCI 2470 Enterprise Database Systems 4
Total Semester Credits 4

Total Program Credits 28

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722

Writing: Score of 76+ or grade of “C” or better in ENGL 0922

Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Network Administration CERTIFICATE

Program Overview
The Network Administration Certificate is designed for individuals who already have acquired at least a minimum level of technical computer skills, either through previous education, training, and/or experience. It is designed to enhance one’s current computer knowledge and skills.

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

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

Career Opportunities
With almost every size company connected to some type of network, the jobs in networking have become the fastest growing jobs 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 for all types of installations are found throughout the country with opportunities for excellent earnings and rapid advancement. Jobs include the following:

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

Program Outcomes
1. Graduates will have knowledge and skills in computer network engineering.
2. Graduates will have knowledge and experience in computer network system design, analysis, and maintenance.
3. Graduates of the Computer Network Programs will be prepared for employment as computer network engineers.

Program Faculty
Warren Sheaffer warren.sheaffer@saintpaul.edu

Program Requirements
☐ Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ CSCI 1410 Computer Science &amp; Information Systems</td>
<td>4</td>
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<tr>
<td>☐ CSCI 1423 Computer Networking 1 – Client</td>
<td>4</td>
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<tr>
<td>☐ CSCI 1440 Networking Fundamentals</td>
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</tr>
<tr>
<td>☐ CSCI 2451 Computer Networking 2 – Server</td>
<td>4</td>
</tr>
<tr>
<td>☐ CSCI 2461 Computer Networking 3 – Linux</td>
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</tr>
<tr>
<td>☐ CSCI 2465 Computer Networking 4 – Infrastructure</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Program Requirements .................................. 24

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a part-time student. Not all courses are offered each semester.

First Semester
CSCI 1410 Computer Science & Information Systems .................. 4  
CSCI 1440 Networking Fundamentals .................................. 4  
Total Semester Credits ............................................. 8

Second Semester
CSCI 1423 Computer Networking 1 – Client  ....................... 4  
CSCI 2465 Computer Networking 4 – Infrastructure ............. 4  
Total Semester Credits ............................................. 8

Third Semester
CSCI 2451 Computer Networking 2 – Server ........................ 4  
CSCI 2461 Computer Networking 3 – Linux .......................... 4  
Total Semester Credits ............................................. 8

Total Program Credits ............................................. 24

See back of this guide for Course Chart

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements in addition to having acquired previous technical computer skills:

- **Reading**: Score of 78+ or grade of “C” or better in READ 0722
- **Writing**: Score of 78+ or grade of “C” or better in ENGL 0922
- **Elementary Algebra**: Score of 78+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

298C(7183)
Network Administration  CERTIFICATE (continued)
(24 credits)

The below chart illustrates the courses required for completion of this certificate.

**Introductory**

- **CSCI 1423**
  - Computer Networking 1 - Client

- **CSCI 1410**
  - Computer Science & Information Systems

- **CSCI 1440**
  - Networking Fundamentals

**Intermediate**

- **CSCI 2451**
  - Computer Networking 2 - Server

- **CSCI 2461**
  - Computer Networking 3 - Linux

- **CSCI 2465**
  - Computer Networking 4 - Infrastructure
Program Overview
This is a 24 credit certificate program exploring the Java programming language and computing platform. The certificate includes a foundation course in computer science, a web fundamentals course, and an in depth study of databases. It then features a two-course sequence in Java programming and a course in Java for web development. This certificate may be completed apart from a degree program or may be selected as an emphasis in the Computer Programming AAS degree.

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

Career Opportunities
Graduates find excellent opportunities as computer programmers in business, manufacturing, government and education. Jobs for computer programmers for all types of computer systems are found throughout the country with opportunities for good earning and rapid advancement.

Program Outcomes
1. Graduates will be able to design and code production software applications.
2. Graduates will be able to use industry standard database management systems to support their applications.

Program Faculty
Warren Sheaffer  warren.sheaffer@saintpaul.edu

Program Requirements
☐ Check off when completed

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

Course | Cr
--- | ---
CSCI 1410 Computer Science & Information Systems | 4
CSCI 1450 Web Fundamentals/HTML | 4
CSCI 1541 Java Programming 1 | 4
CSCI 1542 Java Programming 2 | 4
CSCI 1550 Database Management Fundamentals | 4
CSCI 2466 J2EE-JSP and Servlets | 4

Total Program Credits | 24

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a part-time student. Not all courses are offered every semester. Please contact the Program Faculty for course sequence.

First Semester
CSCI 1410 Computer Science & Information Systems | 4
CSCI 1450 Web Fundamentals/HTML | 4
Total Semester Credits | 8

Second Semester
CSCI 1541 Java Programming 1 | 4
CSCI 1550 Database Management Fundamentals | 4
Total Semester Credits | 8

Third Semester
CSCI 1542 Java Programming 2 | 4
CSCI 2466 J2EE-JSP and Servlets | 4
Total Semester Credits | 8

Total Program Credits | 24

See back of this guide for Course Chart

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
Java Programming  CERTIFICATE (continued)
(24 credits)

The below chart illustrates the courses required for completion of this certificate.

Introductory

- CSCI 1410: Computer Science & Information Systems
- CSCI 1450: Web Fundamentals/HTML

Intermediate

- CSCI 1550: Database Management Fundamentals
- CSCI 1541: Java Programming 1

Advanced (offered once per year)

- CSCI 1542: Java Programming 2
- CSCI 2466: JSP and Servlets
Web Based 2D Game Development CERTIFICATE

Program Overview
This is a 24 credit certificate program exploring video game creation. The certificate is ideal for students who want to acquire skills needed for game design and programming. The certificate will utilize HTML5, Javascript, Tumult Hype and Phonegap to recreate classic video games for both the Desktop and mobile platforms. The capstone class will introduce students to some of the concepts of mobile app development for both the iPhone and Android platforms. This certificate may be completed apart from a degree program or may be selected as an emphasis in the Computer Programming AAS degree.

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

Career Opportunities
Graduates find excellent opportunities as computer programmers in business, manufacturing, government and education. Jobs for computer programmers for all types of computer systems are found throughout the country with opportunities for good earning and rapid advancement.

Program Outcomes
1. Graduates will be able to design and code gaming software applications.
2. Graduates will be able to use industry standard design skills to support their applications.

Program Faculty
Darren Pearson darren.pearson@sainpaul.edu

Program Requirements
☐ Check off when completed

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

Course Cr
☐ CSCI 1450 Web Fundamentals/HTML ........... 4
☐ CSCI 2440 Client Side Programming 1 .......... 4
☐ CSCI 2587 Web Based Game Dev. 1 .......... 4
☐ CSCI 2588 Web Based Game Dev. 2 .......... 4
☐ DGIM 2521 2D Web Animation ............ 4
☐ DGIM 2586 Digital Sound ................... 2
☐ DGIM Technical Elective(s) .................. 4
Any 4 credits of DGIM classes will be allowed, although the following classes are recommended.
DGIM 1483 Photoshop 1 - 2cr
DGIM 1484 Photoshop 2 - 2cr
DGIM 1490 3D Animation Fundamentals - 4cr
DGIM 2560 Illustrator - 4cr

Total Program Credits .................... 24

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a part-time student. Not all courses are offered every semester. Please contact the Program Faculty for course sequence.

First Semester
CSCI 1450 Web Fundamentals/HTML ............ 4
Total Semester Credits .................... 6

Second Semester
CSCI 2440 Client Side Programming 1 .......... 4
DGIM Technical Electives .................... 2
Total Semester Credits .................... 6

Third Semester
CSCI 2587 Web Based Game Dev. 1 .......... 4
DGIM Technical Electives .................... 2
Total Semester Credits .................... 6

Fourth Semester
CSCI 2588 Web Based Game Dev. 2 .......... 4
DGIM 2586 Digital Sound .................... 2
Total Semester Credits .................... 6

Total Program Credits .................... 24

See back of this guide for Course Chart

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
The below chart illustrates the courses required for completion of this certificate.

**Introductory**

- **DGIM 2521**
  2D Web Animation

- **CSCI 1450**
  Web Fundamentals/HTML

**Intermediate**

- **DGIM 2530**
  Web Based Game Design 1

- **CSCI 2440**
  Client Side Programming

**Advanced**

- **DGIM 2531**
  Web Based Game Design 2

(24 credits)
Web Development CERTIFICATE

Program Overview
This is a 24 credit certificate program providing a foundation in current web technologies. It features a two course sequence in client side programming including AJAX, and also coverage of at least two current server side technologies for database driven development. It includes popular technologies like Ruby on Rails and JSP/Servers. This certificate may be completed apart from a degree program or may be selected as an emphasis in the Computer Programming AAS degree.

Career Opportunities
Graduates find excellent opportunities as computer programmers in business, manufacturing, government and education. Jobs for computer programmers for all types of computer systems are found throughout the country with opportunities for good earning and rapid advancement.

Program Outcomes
1. Graduates will be able to design and code production web applications based on standard client and server side technologies.
2. Graduates will be able to use industry standard database management systems to support their applications.

Program Faculty
Darren Pearson  darren.pearson@saintpaul.edu

Program Requirements
☐ Check off when completed

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1410 Computer Science &amp; Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1450 Web Fundamentals/HTML</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2440 Client Side Programming 1</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2442 Server Side Programming</td>
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<td>Subtotal</td>
<td>16</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>8</td>
</tr>
<tr>
<td>Select two of the following courses:</td>
<td></td>
</tr>
<tr>
<td>CSCI 2466 J2EE-JSP and Servlets</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2621 Ruby on Rails</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2622 Client Side Programming 2</td>
<td>4</td>
</tr>
<tr>
<td>Total Program Credits</td>
<td>24</td>
</tr>
</tbody>
</table>

Program Start Dates
Fall, Spring, Summer

Course Sequence
Not all courses are offered every semester. Please contact the Program Faculty for course sequence.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ or grade of “C” or better in ENGL 0922
Elementary Algebra: Score of 76+ or grade of “C” or better in MATH 0910

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Web Development CERTIFICATE (continued)
(24 credits)

The below chart illustrates the courses required for completion of this certificate.

Introductory

CSCI 1450
Web Fundamentals/HTML

CSCI 1410
Computer Science & Information Systems

Intermediate

CSCI 2440
Client Side Programming 1

CSCI 2442
Server Side Programming

CSCI 1541
Java Programming 1

(only required if taking CSCI 2466)

Advanced
(offered once per year)

Web Development Electives (select two)

CSCI 2622
Client Side Programming 2

CSCI 2621
Ruby on Rails

CSCI 2466
JSP and Servlets

(only required if taking CSCI 2466)
Mobile Development **CERTIFICATE**

**Program Overview**
This is a 24 credit certificate program introducing development on the two most popular mobile platforms: Android and iOS. The certificate includes a foundation course in computer science, a web fundamentals course, and a two course sequence exploring each mobile platform. This certificate may be completed apart from a degree program or may be selected as an emphasis in the Computer Programming AAS degree.

**Career Opportunities**
Graduates from the Mobile Development Certificate program will find excellent opportunities in many industries from healthcare to entertainment. Graduates can also find jobs through freelance opportunities and computer Science entrepreneurs.

**Program Outcomes**
1. Students will become proficient in the development of mobile applications for both the iDevice and Android mobile platforms.
2. Students will be capable of utilizing industry standard application development platforms for both iDevice and Android software.
3. Students will be knowledgeable in application deployment strategies and technologies for both iDevice and Android platforms.
4. Student will have a general knowledge of the business model surrounding mobile application development.

**Program Faculty**
Warren Sheaffer  warren.sheaffer@saintpaul.edu

**Program Requirements**
- Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1410 Computer Science &amp; Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1450 Web Fundamentals/HTML</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1531 Objective-C Programming</td>
<td>4</td>
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<tr>
<td>CSCI 1541 Java Programming</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2628 Programming iOS Devices</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2629 Programming Android Devices</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Program Credits</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

**Program Start Dates**
Fall, Spring, Summer

**Course Sequence**
The following sequence is recommended for a part-time student. Not all courses are offered each semester.

**First Semester**
- CSCI 1410 Computer Science & Information Systems | 4
- CSCI 1450 Web Fundamentals/HTML | 4
- **Total Semester Credits** | **8**

**Second Semester**
- CSCI 1531 Objective-C Programming | 4
- CSCI 1541 Java Programming | 4
- **Total Semester Credits** | **8**

**Third Semester**
- CSCI 2628 Programming iOS Devices | 4
- CSCI 2629 Programming Android Devices | 4
- **Total Semester Credits** | **8**
- **Total Program Credits** | **24**

See back of this guide for Course Chart

**Minimum Program Entry Requirements**
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Reading: Score of 78+ or grade of “C” or better in READ 0722

**Writing:** Score of 78+ or grade of “C” or better in ENGL 0922

**Elementary Algebra:** Score of 76+ or grade of “C” or better in MATH 0910

**Assessment Results and Prerequisites:**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.
Mobile Development CERTIFICATE (continued)
(24 credits)

The below chart illustrates the courses required for completion of this certificate.

**Introductory**

- **CSCI 1410** Computer Science & Information Systems
- **CSCI 1450** Web Fundamentals/HTML

**Intermediate**

- **CSCI 1531** C/C++ Programming
- **CSCI 1541** Java Programming 1

**Advanced**

- **CSCI 2628** Programming iOS Devices
- **CSCI 2629** Programming Android Devices
Program Requirements Guide

Data Science AS DEGREE

Program Overview
Data Science uses the techniques and theories from many different fields of study including mathematics, statistics, computer science, and information theory. Data scientists sort through great amounts of unstructured data such as emails, videos, social media, and other user-generated content and write algorithms to extract insights from the data. In essence, they turn data into knowledge.

Students entering into this program of study will learn to collect, manage, interpret and analyze data in order to assist in making data-informed decisions for the benefit of a company or organization.

Career Opportunities
There is a growing need for individuals who have the skills to effectively collect and analyze data to make informed, data-driven decisions. Jobs for data scientists, business intelligence analysts, data mining analysts and other data science professions have emerged across all industries. Data mining analysts are responsible for extracting insights from the data. In essence, they turn data into knowledge.

User-generated content and write algorithms to sort through great amounts of unstructured data such as emails, videos, social media, and other user-generated content and write algorithms to extract insights from the data. In essence, they turn data into knowledge.

Program Outcomes
1. Graduates will have knowledge and skills to understand big data and the challenges of capturing, storing and retrieving massive data.
2. Graduates will develop an understanding of the analytical and computational techniques used to analyze data for the purposes of providing meaning.
3. Graduates will be familiar with the foundations, frameworks and applications of the emerging field of data science.
4. Graduates of the Data Science program will be prepared for the application of data-based analytical approach to identify and solve problems.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below. For more information please go to saintpaul.edu/Transfer.

Data Science AS
BA Individualized Studies
Metropolitan State University

Program Faculty
Warren Sheaffer  warren.sheaffer@saintpaul.edu

Program Requirements
☐ Check off when completed
Course                  Cr
☐ CSCI 1410 Computer Science & Information Systems     4
☐ CSCI 1523 Intro to Computing and Programming Concepts  4
☐ CSCI 1524 Intro to Algorithms and Data Structures     4
☐ CSCI 1541 Java Programming 1                         4
☐ CSCI 1550 Database Management Fundamentals           4
☐ CSCI 17XX Introduction to Data Science                4
☐ Technical Electives                                   6
Select from CSCI, GISC, MATH; the following are recommended:
CSCI 1450 Web Fund/HTML - 4 cr
CSCI 1544 Enterprise Op Systems – 4 cr
CSCI 2470 Enterprise Database Systems – 4 cr
GISC 1760 Intro to GIS – 4 cr
GISC 1765 Cartography – 3 cr
GISC 2730 Programming and Scripting in GIS – 4 cr
MATH2749 Calculus 1 – 4 cr
Subtotal                             4
General Education/MnTC Requirements      Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication                    7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 4: Mathematical/Logical Reasoning       11
MATH 1740 Introduction to Statistics – 4 cr
MATH 2100 Intermediate Statistics – 4 cr
PHIL 1710 Logic – 3 cr
☐ Goal 5: History, Social Science and Behavioral Sciences – 3
ECON 1720 Macroeconomics – 3 cr OR
ECON 1730 Microeconomics – 3 cr
☐ Goal 6: Humanities & Fine Arts            3
PHIL 1720 Ethics – 3 cr
☐ Goals 1-10 of the Minnesota Transfer Curriculum – 6
Students must select a minimum of 5 additional credits such that courses from at least six (6) goal areas of the Minnesota Transfer Curriculum are met.
General Education Requirements       30
Total Program Credits                   60

Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term.

Students should consult with the Program Faculty each semester.

First Semester
CSCI 1410 Computer Science & Information Systems 4
Goal 1: ENGL 1711 Composition 1 4
Goal 1: COMM 17XX 3
Goal 4: PHIL 1710 Logic 3
Total Semester Credits 14

Second Semester
CSCI 1523 Intro to Computing and Programming Concepts 4
CSCI 1550 Database Management 4
Goal 4: MATH 1740 Introduction to Statistics 4
Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics 3
Total Semester Credits 15

Third Semester
CSCI 1541 Java Programming 1 4
CSCI 17XX Introduction to Data Science 4
Goal 4: MATH 2100 Intermediate Statistics 4
Goal 6: PHIL 1720 Ethics 3
Total Semester Credits 15

Fourth Semester
CSCI 1524 Intro to Algorithms and Data Structures 4
Technical Electives 6
MnTC Electives 6
Total Semester Credits 16

Total Program Credits 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 1415
College Level Math: Score of 50+ or grade of "C" or better in MATH 0920
Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.
**Program Overview**
GIS is an acronym for Geographic Information Science. The GIS Associate of Applied Science degree will prepare students for entry level positions in various industries that require geospatial skills and thinking or for transitioning to four-year baccalaureate programs. Students completing this degree will be able to create and import digital special data representing real-world features from the surface of the Earth with the goal of viewing, manipulating, and analyzing the data to be distributed and used in decision making.

Duties for many positions requiring GIS skills typically involve a combination of outside field work and indoor computer work. While outside, raw spatial data is often collected with GPS devices for a variety of features. Some examples include the location of trees, fountains, utility poles, underground pipelines, soil sample sites, endangered species, and more. The working environment may be in a dense urban area or remote national park, depending on the employer. While inside, digital special data are imported from your GPS devices into a computer where the data is assessed for quality and revised/manipulated if necessary. Remotely sensed data from various sensors and online archives may also be used to generate additional information. GIS employees typically coordinate with other experts (e.g. geologists, business operations specialists, hydrologists, farmers, and urban planners) to discuss the scientific and managerial implications of their work.

**Career Opportunities**
There are abundant opportunities for employment as a GIS Analyst, GIS Technician, or GIS Specialist in a wide variety of businesses, universities, government agencies, and non-profit organizations. Employees with strong GIS skills are highly coveted in the oil and gas industry, biological and environmental sciences research, natural resource management, government agencies focus on mapping and analyzing infrastructure, intelligence collection by federal agencies, and various business groups. GIS professionals also have ample opportunity to advance into more highly-skilled positions or managerial and leadership positions.

**Program Outcomes**
1. Graduates will possess fundamental and applied skills in GIS such as making maps, working with rasters and vectors, geometric accuracy, georeferencing, map projections, spatial analysis, Boolean logic, scripting, remote sensing, air photo interpretation, etc.
2. Graduates will develop a working knowledge of the most popular GIS software, ArcGIS from ESRI.
3. Graduates will develop a working knowledge of GPS devices used by a multitude of businesses and government agencies.

**Program Requirements**
- **Course Requirements**
  - GISC 1760 Introduction to GIS: 4 Cr
  - GISC 1765 Cartography: 3 Cr
  - GISC 1770 Spatial Thinking: 3 Cr
  - GISC 1775 Intro to Remote Sensing: 4 Cr
  - GISC 1780 Spatial Analysis: 3 Cr
  - GISC 1785 GPS Field Techniques: 3 Cr
  - GISC 2720 Web-based GIS: 3 Cr
  - GISC 2725 Object-based Image Analysis: 3 Cr
  - GISC 2730 Programming and Scripting in GIS: 4 Cr

- **General Education/MnTC Requirements**
  - ENGL 1711 Composition 1: 4 Cr
  - BIOL 1725 Environmental Science: 3 Cr
  - GEOG 1700 Physical Geography: 3 Cr
  - MATH 1740 Introduction to Statistics: 4 Cr
  - GEOG 1711 Composition 1: 4 Cr
  - Goal 6: Humanities and Fine Arts: 3 Cr
  - MnTC Elective: 6 Cr

**Total Program Credits**: 60

**Transfer Opportunities**
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below. For more information please go to saintpaul.edu/Transfer.

**Geographic Information Science AAS**
BA Individualized Studies
Metropolitan State University

**Program Start Dates**
Fall, Spring, Summer

**Course Sequence**
Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

**First Semester**
- GISC 1760 Introduction to GIS: 4 Cr
- GISC 1765 Cartography: 3 Cr
- GISC 1770 Spatial Thinking: 3 Cr
- Goal 1: COMM 17XX: 3 Cr
- Goal 5: GEOG 1700 Physical Geography: 3 Cr
- Total Semester Credits: 16

**Second Semester**
- GISC 1775 Intro to Remote Sensing: 4 Cr
- GISC 1780 Spatial Analysis: 3 Cr
- GISC 1785 GPS Field Techniques: 3 Cr
- Goal 4: MATH 1740 Introduction to Statistics: 4 Cr
- Total Semester Credits: 14

**Third Semester**
- GISC 2720 Web-based GIS: 3 Cr
- GISC 2725 Object-based Image Analysis: 3 Cr
- Goal 1: ENGL 1711 Composition 1: 4 Cr
- Goal 6: Humanities and Fine Arts: 3 Cr
- MnTC Elective: 6 Cr
- Total Semester Credits: 16

**Fourth Semester**
- GISC 2730 Programming and Scripting in GIS: 4 Cr
- Goal 3: BIOL 1725 Environmental Science: 3 Cr
- MnTC Elective: 6 Cr
- Total Semester Credits: 14

**Total Program Credits**: 60

**Minimum Program Entry Requirements**
Students entering this program must meet the following minimum program entry requirements:

- **Reading**: Score of 78+ or grade of “C” or better in READ 0722
- **Writing**: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
- **College Level Math**: Score of 50+ or grade of “C” or better in MATH 0920

**Assessment Results and Prerequisites**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
Program Overview
In order to be admitted to the Geographic Information Science certificate program, the student must have completed an associate degree or baccalaureate degree, or receive instructor approval if currently pursuing an associate degree in another discipline.

The Geographic Information Science certificate program is designed to introduce students to fundamental concepts in GIS and prepare them for entry level positions in various industries that require some knowledge and understanding of GIS. Students completing the GIS certificate program will learn how to solve problems and support the decision making process by collecting, viewing, manipulating, and mapping digital spatial data. There will be ample opportunities in the classes for students to pursue independent GIS projects related to their interests.

Career Opportunities
Duties for most positions requiring skills obtained from the GIS Certificate program are highly variable. Some employees spend much of their time working in an office with cutting-edge GIS software, but others are outside in the field most of the time providing support for data collection activities. For instance, in a retail setting, employees may provide technical insight for modeling the most appropriate location of new stores based on a variety of variables such as distance to existing stores, population density, and demographics. In an environmental science setting, employees may identify and map locations of invasive species or provide support in developing a watershed analysis geared to improve water quality.

Most employment opportunities relevant to the GIS Certificate will be listed under a wide range of specialties in various sectors (e.g., environment field technician, business support analyst, computer programmer, etc.) where GIS is not mentioned in the title, but is a preferred skill. The opportunity you are best suited for will be shaped by your previous and ongoing education and work experience.

Program Outcomes
1. Basic skills for working with digital spatial data in a GIS environment. This includes a fundamental understanding of rasters, vectors, map projections, coordinate systems, and cartography.
2. Solid understanding of ArcGIS from ESRI.
3. Working knowledge of Trimble GPS units.

Program Faculty
Kirk Stueve  kirk.stueve@saintpaul.edu

Program Requirements
☑ Check off when completed
Course                  Cr
☐ GISC 1760 Introduction to GIS.................. 4
☐ GISC 1765 Cartography ........................... 3
☐ GISC 1770 Spatial Thinking ...................... 3
☐ GISC 1785 GPS Field Techniques .................. 3
Subtotal: ........................................... 13
Total Program Credits .................................. 13

Program Start Dates
Fall

Course Sequence
Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.
Program is not eligible for financial aid.

First Semester
GISC 1760 Introduction to GIS ...................... 4
GISC 1765 Cartography ............................... 3
GISC 1770 Spatial Thinking .......................... 3
GISC 1785 GPS Field Techniques ................... 3
Total Semester Credits: ............................... 13
Total Program Credits: ............................... 13

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Note: Students must have completed an Associate Degree or Baccalaureate degree or have instructor approval to be enrolled in this Certificate.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

383C (7225)
## Liberal & Fine Arts Programs & Courses

### Liberal & Fine Arts

- Associate of Arts Degree (60 Credits) .................................. 194
- Associate of Arts Degree –
  - Emphasis in Communication Studies (60 Credits) .......... 195
  - Emphasis in Criminology (60 Credits) .................. 196
  - Emphasis in History (60 Credits) .......................... 197
  - Emphasis in Social Science/Public Affairs (60 Credits) .. 198
- Associate of Fine Arts Degree – Music (68 Credits) ...... 199
- American Sign Language Studies Certificate
  - (30 Credits) ............................................. 200
- Also available: Sign Language Interpreter/Transliterator
  - AAS Degree, page 164
- English for Academic Purposes (EAP)
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### Communications

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- Reading ............................................................. 203
- Communication .................................................. 203
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- Chinese ........................................................... 205
- Spanish ............................................................. 206

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- Geography ......................................................... 207
- History .............................................................. 207
- Political Science .................................................. 208
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Program Overview
The Associate of Arts (AA) degree is awarded for successful completion of 60 semester credits in liberal arts and sciences and is designed to constitute the first two years of a bachelor’s degree. The AA degree 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 Pathway Advisor to assure that degree requirements are fulfilled. Requirements may vary depending upon the major and transfer college.

The AA degree can be completed through a variety of course delivery methods including face to face, hybrid and/or online. A student may choose to complete the entire AA degree online.

Program Outcomes
1. Knowledge of the important concepts and principles of the natural sciences, mathematics, history, social and behavioral sciences, arts, and humanities.
2. Skills necessary for life roles, including skills in thinking, communication and methods of inquiry and applications of knowledge.
3. Critical examination of and an appreciation for diverse people, cultures and life roles.

Program Advisors
Pathway Advisors are the Academic Advisors for the Associate of Arts degree and are located in the Advising Center, Room 1340, Main Floor.

For assistance or additional information, please call our Advising Center at 651.846.1739 or email: advising@saintpaul.edu.

Program Requirements
☐ Check off when completed

Course Requirements Cr
Refer to the Minnesota Transfer Curriculum Course List for each of the ten Goal Areas
☐ Goal 1: Communication .......................... 9
Minimum of 9 credit, including the following:
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 2: Critical Thinking
Fulfilled when 10 goal areas (40 credits) are completed
☐ Goal 3: Natural Sciences ........................... 7
Minimum of two courses from two different disciplines, one of which must be a lab course.
☐ Goal 4: Mathematical/Logical Reasoning ....... 3
Minimum of one course. Courses must be numbered between 1700-1799 or 2700-2799.
☐ Goal 5: History, Social Sciences and Behavioral Sciences .......................... 9
Minimum of three courses from two different disciplines.
☐ Goal 6: Humanities and Fine Arts ............... 9
Minimum of three courses from two different disciplines.
☐ MnTC Goal 7: Human Diversity
Minimum of one course.
☐ MnTC Goal 8: Global Perspective
Minimum of one course.
☐ MnTC Goal 9: Ethic and Civil Responsibility
One eligible course.
☐ MnTC Goal 10: People and the Environment
Minimum of one course.

Minnesota Transfer Curriculum
Students completing the Minnesota Transfer Curriculum (MnTC) must take courses that satisfy the requirements for each of the 10 Goal Areas.
• A minimum of 40 credits is required.
• Credits are counted only once toward the MnTC 40-credit minimum even though a course may be listed in more than one goal area. Courses designated with a superscript satisfy more than one goal area, i.e., BIOL 1725*. 
• A discipline is a subject, e.g., “Biology,” “Chemistry,” and “Physics” are three different disciplines.

Check www.transferology.com to determine whether courses transfer as direct equivalents at the institution you plan to attend.

Using the MnTC Curriculum Guide
The MnTC Curriculum Guide is available online at saintpaul.edu/MnTC or you can pick one up in the Advising Center or in Enrollment Services.

On the guide, pay special attention to the following:
• A (p) listed after the course title indicates that a prerequisite is required before the course can be taken.
• An asterisk (*) after the course number indicates the course contains a lab.

Information is subject to change.
This Program Requirements Guide is not a contract.
Program Overview
The Associate of Arts Degree - Emphasis in Communication Studies provides students with the opportunity to learn how to write strong messages and speak persuasively. Students will also build skills in networking, team building, and conflict management.

Career Opportunities
Students who successfully complete the Associate of Arts Degree - Emphasis in Communication Studies will be prepared to transfer to a baccalaureate program in Professional Communications. With a degree in Communications you can work in a number of fields within the Arts, Audio-Video Technology and Communications sectors such as Communications Director, Customer Relations, Media Relations, Journalism and Sales.

Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural science, mathematics history, social and behavioral sciences, arts, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communication, and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of communication skills in both spoken and written form.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate agreement between the following program and Saint Paul College has a transfer articulation agreement.

Program Requirements
☐ Check off when completed

Emphasis Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 1710 Fundamentals of Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1720 Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1730 Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1750 Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM 1780 Gender Communication</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies Electives</td>
<td>5</td>
</tr>
<tr>
<td>Any MnTC course may be counted; however, the following are recommended:</td>
<td></td>
</tr>
<tr>
<td>COMM 1740 Mass Media &amp; Communication- 3 cr</td>
<td></td>
</tr>
<tr>
<td>COMM 1770 Family Communication- 3 cr</td>
<td></td>
</tr>
</tbody>
</table>

Emphasis Total: ................................. 20

MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

<table>
<thead>
<tr>
<th>Goal Area</th>
<th>MnTC Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1: Communication 1 - 4 cr</td>
<td>9</td>
</tr>
<tr>
<td>ENGL 1711 Composition 2 - 2 cr</td>
<td>2</td>
</tr>
<tr>
<td>COMM 17XX- 3 cr</td>
<td></td>
</tr>
<tr>
<td>Requirement met with emphasis COMM courses.</td>
<td></td>
</tr>
<tr>
<td>Goal 2: Critical Thinking Fulfilled when 10 goal areas (40 credits) are completed.</td>
<td></td>
</tr>
<tr>
<td>Goal 3 Natural Science</td>
<td>7</td>
</tr>
<tr>
<td>Two courses from two different disciplines, one of which must be a lab course.</td>
<td></td>
</tr>
<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>One course numbered between 1700-1799 or 2700-2799.</td>
<td></td>
</tr>
<tr>
<td>Goal 5: History, Social Sciences and Behavioral Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>Goal 6: Humanities &amp; Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>Goal Areas 7-10</td>
<td></td>
</tr>
<tr>
<td>Select courses to meet all 10 Goal Areas</td>
<td></td>
</tr>
<tr>
<td>MnTC Requirements Total: ................................. 40</td>
<td></td>
</tr>
</tbody>
</table>

Total Program Credits: ................................. 60

If courses are counted in both the Emphasis Requirements and the MnTC Requirements students may need to complete additional classes to reach the 60 credit total.
# Associate of Arts Degree  
## Emphasis in Criminology

### Program Overview
The Associate of Arts Degree - Emphasis in Criminology provides students the opportunity to study specific types of crime, the theories of crime and punishment, the psychological and social origins of criminal behavior, and social value systems. Students will also examine criminal law and criminal justice systems, penology, rehabilitation, recidivism, social attitudes concerning crime and the justice system, and criminal justice policy.

### Career Opportunities
Students who successfully complete the Associate of Arts Degree - Emphasis in Criminology will be prepared to transfer to a baccalaureate program in Criminal Justice. With a degree in criminal justice, you can work in a number of careers fields within the justice system such as court administrators, social workers, parole officers, correctional officers and management positions.

### Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural sciences, mathematics, history, social and behavioral sciences, arts, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communication, and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of the fields of criminology and criminal justice and apply criminological theory to contemporary problems and issues.

### Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

### Associate of Arts Degree - Emphasis in Criminology

**BA**  
Criminal Justice  
Metropolitan State University

### Program Requirements
**Program Faculty**
Kris D’Meier  
kris.dmeier@saintpaul.edu  
Jolene Sundlie  
jolene.sundlie@saintpaul.edu

<table>
<thead>
<tr>
<th>Emphasis Requirements</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 1765 Sociology of Crime and Deviance</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1766 Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1772 Intro to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Criminology Electives</td>
<td>11</td>
</tr>
</tbody>
</table>

Any MnTC course may be counted; however, the following are recommended:
- PHIL 1720 Ethics – 3 cr
- POLS 1720 Intro to American Government – 3 cr
- PSYC 1710 General Psychology – 4 cr
- PSYC 1740 Abnormal Psychology – 4 cr
- PSYC/SOCI 2720 Social Psychology – 4 cr
- SOCI 1710 Intro to Sociology – 4 cr
- SOCI 1720 Social Problems – 3 cr
- SOCI 1774 Intro to Corrections – 3 cr
- SOCI 1776 Probation, Parole and Alternative Sentencing – 3 cr

**Emphasis Total** | 20

**MnTC Requirements**

<table>
<thead>
<tr>
<th>Goal Areas</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1: Communication</td>
<td>9</td>
</tr>
<tr>
<td>ENGL 1711 Composition 1 – 4 cr</td>
<td></td>
</tr>
<tr>
<td>ENGL 1712 Composition 2 – 2 cr</td>
<td></td>
</tr>
<tr>
<td>COMM 17XX – 3 cr</td>
<td></td>
</tr>
<tr>
<td>Goal 2: Critical Thinking</td>
<td></td>
</tr>
<tr>
<td>Fullfilled when 10 goal areas (40 credits) are completed.</td>
<td></td>
</tr>
<tr>
<td>Goal 3: Natural Science</td>
<td>7</td>
</tr>
<tr>
<td>Two courses from two different disciplines, one of which must be a lab course.</td>
<td></td>
</tr>
<tr>
<td>Goal 4: Mathematical/Logical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>One course numbered between 1700-1799 or 2700-2799</td>
<td></td>
</tr>
<tr>
<td>MATH 1740 Introduction to Statistics (recommended)</td>
<td>4 cr</td>
</tr>
<tr>
<td>Goal 5: History, Social Sciences and Behavioral Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Three courses from two different disciplines. Emphasis courses SOCI 1765 – 3 cr and SOCI 1766 – 3 cr will count toward Goal 5. One additional non-SOCI course is required.</td>
<td></td>
</tr>
<tr>
<td>Goal 6: Humanities &amp; Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>Goal Areas 7-10</td>
<td></td>
</tr>
</tbody>
</table>

Select courses to meet all 10 Goal Areas

**MnTC Requirements Total** | 40

**Total Program Credits** | 60

If courses are counted in both the Emphasis Requirements and the MnTC Requirements students may need to complete additional classes to reach the 60 credit total.

### Program Advisors
Pathway Advisors are the Academic Advisors for the Associate of Arts degree and are located in the Advising Center, Room 1340, Main Floor. For assistance or additional information, please call our Advising Center at 651.846.1739 or email: advising@saintpaul.edu

### Additional Requirements
- At least 60 earned college-level credits (40 MnTC credits and 20 additional MnTC, pre-major or elective credits)
- A grade of “C” or better in ENGL 1711
- Associate of Arts (AA) cumulative GPA of 2.0
- Minnesota Transfer Curriculum (MnTC) cumulative GPA of 2.0
- Meet Saint Paul College residency requirement: 20 credits. This requirement may be reduced to 12 credits with transfer of at least 12 college-level credits from another Minnesota State College and University or the University of Minnesota.

### Program Start Dates
- Fall, Spring, Summer

### Course Sequence
Students are allowed to take the courses in any sequence. However, all course prerequisites need to be followed. For specific specifications, please speak with a Pathway Advisor or one of the program faculty. Students should consult with the Program Advisor each semester.

Not all courses are offered each semester; a selection of courses is offered summer term.

### Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ or grade of “C” or better in READ 0722

**Writing:** Score of 78+ or grade of “C” or better in ENGL 0922

**Arithmetic:** Score of 20+; Visit the Advising Center to determine if the transfer programs require college-level mathematics.

**Assessment Results and Prerequisites:**
Students admitted to Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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Information is subject to change.  
This Program Requirements Guide is not a contract.
Program Requirements Guide

2018 - 2019

Associate of Arts DEGREE

Emphasis in History

Program Overview
The Associate of Arts Degree – Emphasis in History provides students with the opportunity to study the narrative of past events as they relate to the human race. They use this knowledge to discuss, write, and educate others regarding the interpretation of the past.

Career Opportunities
Students who successfully complete the Associate of Arts Degree – Emphasis in History will be prepared to transfer to a baccalaureate program in History. With a degree in History you can work in a number of fields within the government and education systems such as special collections librarians, archivists, museum work, and faculty at secondary and post-secondary institutions. A History degree is also useful preparation for careers in policy studies or the practice of law.

Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural sciences, mathematics, history, social and behavioral sciences, arts, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communication, and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of historical events and their causes, indicators, and effects on civilizations and cultures.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Associate of Arts Degree - Emphasis in History
BA History Metropolitan State University

Program Faculty
Kurt Kortenhof kurt.kortenhof@saintpaul.edu
Ayeshia Shariff ayeshia.shariff@saintpaul.edu

Program Requirements
☐ Check off when completed

<table>
<thead>
<tr>
<th>Emphasis Requirements</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1746 U.S. History Since 1877 ....... 4</td>
<td></td>
</tr>
<tr>
<td>HIST 1760 History of World Civ. to 1500 .. 3</td>
<td></td>
</tr>
<tr>
<td>HIST 1761 History of World Civ. since 1500 .. 3</td>
<td></td>
</tr>
<tr>
<td>HIST 2790 Historical Methods ............... 2</td>
<td></td>
</tr>
<tr>
<td>History Electives .......... 8</td>
<td></td>
</tr>
</tbody>
</table>

Any MnTC Goal 5 course may be counted; however, the following are recommended:
HIST 1730 Contemporary World History – 3 cr
HIST 1750 Minnesota History – 3 cr
HIST 1770 History of Women in the U.S. – 3 cr
HIST 1773 African American History – 3 cr
HIST 2740 Immigration and Ethnic History of the U.S. – 3cr
HIST 2780 Special Topics in History (1-6)

Emphasis Total. ........................................... 20

MnTC Requirements

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ............................. 9
  ENGL 1711 Composition 1 – 4 cr
  ENGL 1712 Composition 2 – 2 cr
  COMM 17XX – 3 cr

☐ Goal 2: Critical Thinking
  Fulfilled when 10 goal areas (40 credits) are completed.
☐ Goal 3 Natural Science ......................... 7
  Two courses from two different disciplines, one of which must be a lab course.

☐ Goal 4: Mathematical/Logical Reasoning ....... 3
  One course numbered between 1700-1799 or 2700-2799.

☐ Goal 5: History, Social Science and Behavioral Sciences ............................ 9
  Three courses from two different disciplines.
  Emphasis courses HIST 1760 – 3 cr and HIST 1761 – 3 cr will count toward Goal 5.
  One additional non-HIST course is required.

☐ Goal 6: Humanities & Fine Arts ................... 9
  Three courses from two different disciplines.

☐ Goal Areas 7-10
  Select courses to meet all 10 Goal Areas

MnTC Requirements Total ........................................ 40

Total Program Credits ....................................... 60

If courses are counted in both the Emphasis Requirements and the MnTC Requirements students may need to complete additional classes to reach the 60 credit total.

Program Advisor
Pathway Advisors are the Academic Advisors for the Associate of Arts degree and are located in the Advising Center, Room 1340, Main Floor. For assistance or additional information, please call our Advising Center at 651.846.1739 or email: advising@saintpaul.edu

Additional Requirements
• At least 60 earned college-level credits
• A grade of “C” or better in ENGL 1711
• Associate of Arts (AA) cumulative GPA of 2.0
• Minnesota Transfer Curriculum (MnTC) cumulative GPA of 2.0
• Meet Saint Paul College residency requirement: 20 credits. This requirement may be reduced to 12 credits with transfer of at least 12 college-level credits from another Minnesota State College and University or the University of Minnesota.

Program Start Dates
Fall, Spring, Summer

Course Sequence
Students are allowed to take the courses in any order. However, all course prerequisites need to be followed. For specific suggestions, please speak with a Pathway Advisor or the program faculty. Students should consult with the Program Advisor each semester.
Not all courses are offered each semester; a selection of courses is offered summer term.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change.
This Program Requirements Guide is not a contract.

99AAHIST

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Program Requirements Guide 2018 - 2019

Associate of Arts DEGREE Emphasis in Social Science/Public Affairs

Program Overview
The Associate of Arts Degree - Emphasis in Social Science/Public Affairs provides students with the opportunity to learn both the political science-based interpretation of public policy as well as the integration of other disciplines and fields that directly contribute to the management of public interest.

Career Opportunities
Students who successfully complete the Associate of Arts Degree - Emphasis in Social Science or Political Science. With a degree in political science you can work in a number of fields within the Government and Public Administration system such as compliance officers, operations managers, political scientists, and public relations specialists.

Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural science, mathematics, history, social and behavioral sciences, arts, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communication and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of the fields of social science and public affairs and apply political theory to contemporary problems and issues.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

Associate of Arts Degree - Emphasis in Social Science/Public Affairs
BA Social Science - Generalist Metropolitan State University
BA Social Science - Political Science Metropolitan State University

Program Faculty
James Andresen james.andresen@saintpaul.edu

Program Requirements
☐ Check off when completed

Emphasis Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 1720 Ethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POLS 1720 Intro to American Government</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POLS 1750 Intro to Political Science</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POLS 1760 Intro to Political Philosophy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science Electives</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Any MnTC Goal 5 course may be counted; however, the following are recommended:

- ECON 1720 Macroeconomics – 3 cr
- ECON 1730 Microeconomics – 3 cr
- POLS 1790 Special Topics in Political Science – 1-6 cr
- PSYC/SOCI 2720 Social Psychology – 4 cr
- SOCI 1720 Social Problems – 3 cr

Emphasis Total: 20

MnTC Requirements

<table>
<thead>
<tr>
<th>Goal Area</th>
<th>MnTC Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communication</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Goal 1: Communication</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>ENGL 1711 Composition</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>ENGL 1712 Composition</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>COMM 17XX</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Goal 2: Critical Thinking</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Two courses from two different disciplines, one of which must be a lab course</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Goal 4: Mathematical/Logical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>One course numbered between 1700-1799 or 2700-2799</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Goal 5: History, Social Science, and Behavioral Sciences</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Emphasis courses POLS 1720 - 3 cr</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>POLS 1750 - 3 cr will count toward Goal 5</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>One additional non-POLS course is required.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Goal 6: Humanities &amp; Fine Arts</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Three courses from two different disciplines.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Emphasis course PHIL1720 - 3 cr will count toward Goal 6</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Two additional courses are required.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Goal Areas 7-10 of the MnTC</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Select courses to meet all 10 Goal Areas</td>
<td></td>
</tr>
</tbody>
</table>

MnTC Requirements Total: 40

Total Program Credits: 60

If courses are counted in both the Emphasis Requirements and the MnTC Requirements students may need to complete additional classes to reach the 60 credit total.

Program Advisor
Pathway Advisors are the Academic Advisors for the Associate of Arts degree and are located in the Advising Center, Room 1340, Main Floor. For assistance or additional information, please call our Advising Center at 651.846.1739 or email: advising@saintpaul.edu

Additional Requirements
- At least 60 earned college-level credits (40 MnTC credits and 20 additional MnTC, pre-major or elective credits)
- A grade of “C” or better in ENGL1711
- Associate of Arts (AA) cumulative GPA of 2.0
- Minnesota Transfer Curriculum (MnTC) cumulative GPA of 2.0
- Meet Saint Paul College residency requirement: 20 credits. This requirement may be reduced to 12 credits with transfer of at least 12 college-level credits from another Minnesota State College and University or the University of Minnesota.

Program Start Dates
Fall, Spring, Summer

Course Sequence
Students are allowed to take the courses in any order. However, all course prerequisites need to be followed. For specific suggestions, please speak with a Pathway Advisor or the program faculty. Students should consult with the Program Advisor each semester.

Not all courses are offered each semester; a selection of courses is offered summer term.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of “C” or better in READ 0722
Writing: Score of 78+ on Writing Comprehension or grade of “C” or better in ENGL 0922
Arithmetic: Score of 20+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
## Program Overview
The Associate of Fine Arts in Music provides students with the educational foundation needed to transfer to a four-year music program. The program will offer music theory and music history as well as develop performance skills.

## Career Opportunities
Students who successfully complete the Associate of Fine Arts in Music Degree will be prepared to transfer to a baccalaureate program in Music. With a degree in music you can pursue careers as college or high school music teachers, music directors and composers, or musicians and singers.

## Program Outcomes
1. Apply knowledge of the important concepts and principles of the natural science, mathematics, history and social sciences, and humanities.
2. Develop skills necessary for life roles, including skills in thinking, communicating, and methods of inquiry and applications of knowledge.
3. Critically examine and develop an appreciation for diverse people, cultures, and life roles.
4. Develop oral and written communication skills to communicate with a wide range of diverse populations.
5. Demonstrate an understanding of the field of music and apply elements of musical theory, history, and performance.

## Program Advisors
Pathway Advisors are the Academic Advisors for the Associate of Arts degree and are located in the Advising Center, Room 1340, Main Floor. For assistance or additional information, please call our Advising Center at 651.846.1739 or email: advising@saintpaul.edu

### Program Faculty
- Michael Olsen  michael.olsen@saintpaul.edu
- Linda Chacholiades  linda.chacholiades@saintpaul.edu

### Program Requirements
All MUSC classes must be completed with a grade of “C” or better.

- Check off when completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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</thead>
<tbody>
<tr>
<td>MUSC 1700 Music Theory &amp; Lab 1</td>
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<tr>
<td>MUSC 1705 Music Theory &amp; Lab 2</td>
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<tr>
<td>MUSC 1710 Music Theory &amp; Lab 3</td>
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<td>MUSC 1715 Music Theory &amp; Lab 4</td>
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<tr>
<td>MUSC 1770 Music in World Cultures</td>
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<tr>
<td>MUSC 2720 Music History 1: Medieval to</td>
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<tr>
<td>instrument</td>
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<tr>
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<tr>
<td>MUSC 1310 Applied Voice − 2 cr</td>
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<tr>
<td>MUSC 1320 Applied Piano − 2 cr</td>
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<td>MUSC 2710 Chamber Singers</td>
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<td>MUSC 2713 Guitar Ensemble</td>
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</tr>
<tr>
<td>MUSC 2714 String Ensemble</td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal** .................................. 37

### General Education/MnTC Requirements
- Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

| Goal 1: Communication                      | 7  |
| Goal 4: Mathematical/Logical Reasoning     | 3  |
| Goal 5: History, Social Science, and       | 3  |
| Behavioral Sciences                        |    |
| Goal 6: Humanities & Fine Arts            | 3  |
| ARTS, ENGL, HUMA, PHIL, SPAN or THTR       | 3  |

**Total Program Credits** ...................... 68

*Suggested courses include:
- MUSC 1735 Classical Piano 1
- MUSC 1736 Classical Piano 2
- MUSC 1745 History of Rock & Roll
- MUSC 1750 Jazz History
- MUSC 1760 American Music
- MUSC 1765 Music of Latin America & the Caribbean

**Information is subject to change. This Program Requirements Guide is not a contract.**

### Program Start Dates
- Fall, Spring, Summer

### Course Sequence
Students are allowed to take the courses in any sequence. However, all course prerequisites need to be followed. For specific suggestions, please speak with a Pathway Advisor or the program faculty. Students should consult with the Program Advisor each semester.

### Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

### Associate of Fine Arts - Music
- **BS**  Music Education

### Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

| Reading: Score of 78+ or grade of “C” or better in READ 0722 |
| Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922 |
| Arithmetic: Score of 20+ |

**Assessment Results and Prerequisites:**
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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99FA
American Sign Language Studies CERTIFICATE

Program Overview
The American Sign Language Studies Certificate Program provides students with the knowledge and skills of American Sign Language (ASL), focusing on the uniqueness of ASL as a language, Deaf Culture and Deaf History. The program encourages students to become involved in the social and cultural activities of the Deaf Community. The curriculum provides a solid and basic foundation for entry into a career in a deafness-related field and prepares students for continued educational studies in a variety of disciplines. It is a pathway to entering the Sign Language Interpreter/Transliterator Program at Saint Paul College or similar programs at other institutions. Individuals who intend to, or currently work with Deaf and/or Hard-of-Hearing individuals in fields such as education, human/social services, community service agencies, and vocational rehabilitation benefit from the opportunity to learn and develop stronger skills in American Sign Language.

It is necessary for students in the American Sign Language Studies Program to be able to process visual information.

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/Transliterator Program.
- Enhances American Sign Language fluency for potential or current teachers of Deaf and Hard-of-Hearing students.

Program Outcomes
1. Graduates will be prepared to meet the ASL prerequisites for the Sign Language Interpreter/Transliterator Program.
2. Graduates will develop ASL skills and Deaf Culture awareness to more effectively communicate with Deaf and Hard-of-Hearing people in a variety of settings.
3. Graduates will meet world language requirements at the high school and college/university level.
4. Graduates will be prepared to take an American Sign Language Proficiency Interview and to meet K-12 Skill Levels.
5. Graduates will meet entrance requirements for undergraduate or graduate programs in ASL Studies, Linguistics, and Deaf Education.

Program Faculty
Rania Johnson rania.johnson@saintpaul.edu
Heather Virnig heather.virnig@saintpaul.edu

Part-time/Full-time Options
Part-time and full-time options are available.

Sign Language Interpreter/Transliterator Program
Students planning to enroll in the Sign Language Interpreter/Transliterator Program after completing this certificate program must meet the program standards and complete the Application to Sign Language Interpreter/Transliterator AAS Degree Major form to apply for admission.

In the Sign Language Interpreter/Transliterator Program, it is necessary for students to be able to process auditory and visual information.

College Credit by Exam/Test-out
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 24 months) at date of application will need to refresh their skills by repeating their last ASL course.

Credits by Exam/Test-Outs are not transferable from other educational institutions.

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

- It is necessary for students in the American Sign Language Studies Program to be able to process visual information.
- Reading: Score of 78+ or grade of “C” or better in READ 0722.
- Arithmetic: Score of 20+

If you intend to enroll in the Sign Language Interpreter/Transliterator program, be aware there is a program prerequisite in arithmetic and writing.

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Program Requirements Guide is not a contract.
American Sign Language Studies  CERTIFICATE  (continued)

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended; however, it is not required. Not all courses are offered each semester; a selection of courses is offered summer term. Some courses are available day and evening; some courses are available days only.

First Semester
Goal 1: COMM 17XX .................................. 3
ASLS 1411 American Sign Language 1 ............. 3
ASLS 1412 American Sign Language 2 ............. 3
Total Semester Credits ................................. 9

Second Semester
ASLS 1413 American Sign Language 3 ............. 3
ASLS 1414 American Sign Language 4 ............. 3
Total Semester Credits ................................. 6

Third Semester
ASLS 1420 ASL Linguistics ............................ 4
*ASLS 1443 ASL Fingerspelling and Numbers ...... 3
Total Semester Credits ................................. 7

Fourth Semester
ASLS 1430 Classifiers .................................. 3
*Technical Elective ..................................... 2
Total Semester Credits ................................. 5

ASLS 1435 Deaf Studies/Culture ......................... 3
Can be taken anytime during the program.

Total Program Credits ................................. 30

* Technical electives can be taken in Fall Semester and ASLS 1443 Fingerspelling and Numbers can be taken during Spring Semester.

Guidelines for Placement in ASL Courses at Saint Paul College

Students with no or little background in ASL
If you have little or no background in ASL you should register for ASLS 1411 American Sign Language 1, which is the first course in our ASL language sequence.

Students with college-level study of ASL
If you have taken ASL courses at another higher education institution, you should have your transcripts evaluated in order to determine appropriate placement.

Students with high school study of ASL
If you have studied ASL for one year or less in high school, enroll in ASLS 1411 American Sign Language 1.

If you have studied ASL for two or more years in high school and can answer “yes” to three or more of the following questions, then you may take a test out on SPC campus.

1. Did you study ASL during your junior AND senior years of high school?
2. Did you graduate from high school during the past two years?
3. Did your teacher use ASL without voice in class?
4. Is ASL your primary language?

For-credit course placement
Test Out:
Students may take a test out at their own expense to determine whether they have the linguistic proficiency necessary to enroll in our second, third, or fourth semester ASL courses. Students passing this test out will receive college-level credit, but will not receive a letter grade. For more information about this test, see the American Sign Language Studies page on the college website.

Non-credit course placement
Sign Language Proficiency Interview (SLPI):
This exam has a fee and a documentation of SLPI rating will be required for non-credit placement. Students scoring advanced/advanced plus on the SLPI evaluation will be allowed to register for ASLS 1414 (ASL 4).

Students scoring intermediate plus on the SLPI evaluation will be allowed to register for ASLS 1413 (ASL 3).

For more information on how to take SLPI go to http://www.msad.state.mn.us/Staff/SLPI%20Registration%20Form%202014-2015.pdf. This is not associated with Saint Paul College.

These guidelines are subject to change. Please, make sure you are following the most current version.
Overview
The English for Academic Purposes (EAP) Program is designed to help English learners enter and succeed in the community and technical college system as well as in the transfer curriculum.

EAP courses focus on speaking and listening, reading and vocabulary, writing and grammar, and pronunciation.

Depending on their intended major, students completing the EAP courses may begin one of the career and technical programs or enroll in general education courses.

Students interested in enrolling in the EAP courses must take the ESL ACCUPLACER test. This test assesses reading, listening and grammar ability.

Outcomes
1. Enter a career and technical 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.

Application Process
Step 1: Apply for Admission
Fill out and submit the online Saint Paul College application at saintpaul.edu/apply or stop by One Stop Room 1300 where computers are available for submitting an application online to be admitted to the College.

Step 2: Take the ESL ACCUPLACER
The ESL ACCUPLACER is a computerized test that covers reading, writing and listening. The test takes about 2 hours to finish, but students may take as much time as needed. An appointment is not needed to take this test.

Students must check in at the One Stop (Room 1300) and will then go to the location where the test is administered. When they finish with all parts of the test, students must take their test scores to One Stop.

Step 3: Attend Orientation / Registration Session
Students receive an email from Saint Paul College about which Orientation Session to attend. At Orientation, students learn more about the College, register for classes and also meet with EAP Program instructors.

Program Faculty
Inna Wolfson  inna.wolfson@saintpaul.edu
Amy Tarrell-Florey  amy.tarrell@saintpaul.edu

Part-time/Full-time Options
Students may attend either part-time or full-time.

Course Requirements
☐ Check off when completed Course Cr
☐ EAPP 0760 High Intermediate Reading and Vocabulary ................. 5
☐ EAPP 0770 High Intermediate Writing and Grammar ...................... 5
☐ EAPP 0780 High Intermediate Speaking and Listening .................. 5
☐ EAPP 0860 Advanced Reading and Vocabulary ......................... 5
☐ EAPP 0870 Advanced Writing and Grammar ......................... 5
☐ EAPP 0880 Advanced Speaking and Listening ......................... 5

Total Course Credits ................. 30

Electives Cr
☐ EAPP 1400 English Pronunciation for Academic and Professional Purposes 2
☐ EAPP 0990 Academic Reading and Writing ....................... 5
☐ EAPP 1490 Special Topics in English for Speakers of Other Languages ........ 1-6

Total Course Credits ................. 30

Program Start Dates
Fall, Spring

Course Sequence
The following sequence is recommended for a full-time student, however, it is not required.

First Semester
EAPP 0760 High Intermediate Reading and Vocabulary ................. 5
EAPP 0770 High Intermediate Writing and Grammar ...................... 5
EAPP 0780 High Intermediate Speaking and Listening ...................... 5
Total Semester Credits ................. 15

Second Semester
EAPP 0860 Advanced Reading and Vocabulary ......................... 5
EAPP 0870 Advanced Writing and Grammar ......................... 5
EAPP 0880 Advanced Speaking and Listening ......................... 5
Total Semester Credits ................. 15

Third Semester
Third semester options depend on a student's major and language ability. Some students may enroll in an English- EAPP Learning Community (LCOM), others may take READ 0722: Reading 2 and ENGL 0922: Fundamentals of Writing 2, and some may begin a career or technical program. Students will work with EAP Program advisors to choose the courses that best fit their needs and major requirements.

Total Course Credits ................. 30

Minimum Program Entry Requirements
ESL Reading Skills: Score of 65+
ESL Listening: Score of 68+

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Information is subject to change. This Course Sequence Guide is not a contract.
Liberal Arts Courses

Course delivery methods change on a semester basis. Please check the current course schedule for the most up-to-date information at saintpaul.edu/CourseSchedule.

Communications

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 of Arts, Associate of Science and Associate of Applied Science degrees.

Course*  Cr
ENGL 0921*  Fundamentals of Writing 1  4
ENGL 0922*  Fundamentals of Writing 2  4
ENGL 1711  Composition 1  4
ENGL 1712  Composition 2  2
ENGL 1720  Introduction to Creative Writing  3
ENGL 1725  Introduction to Fiction Writing  3
ENGL 1730  Introduction to Technical Writing  3
ENGL 1780  Recently-Arrived Contemporary Immigrant Literature  3
ENGL 2755  LGBTQWriters  3

* Does not meet Minnesota Transfer Curriculum (MnTC)

Distribution Requirements

Communications

Rhetoric is the study of Communication. Rhetoric began by definition, refers to oratory or persuasive speaking. The Communication faculty promotes the study of human communication and mass communication as well as in the transfer curriculum. Students enroll in Communication courses to fulfill Minnesota Transfer Curriculum requirements and graduation requirements.

Course*  Cr
COMM 1710  Fundamentals of Public Speaking  3
COMM 1720  Interpersonal Communication  3
COMM 1730  Intercultural Communication  3
COMM 1740  Mass Media and Communications  3
COMM 1750  Small Group Communication  3
COMM 1770  Family Communication  3
COMM 1780  Gender Communication  3
COMM 1790  Special Topics in Communication  1-6

Department Faculty
Anna Ignatjeva  651.846.1728 anna.ignatjeva@saintpaul.edu
Shelby Reigstad  651.846.1730 shelby.reigstad@saintpaul.edu
Daniel Paulnock  651.846.1662 daniel.paulnock@saintpaul.edu

English for Academic Purposes (EAP) Overview

The English for Academic Purposes (EAP) Program is designed to help English learners enter and succeed in the community and technical college system as well as in the transfer curriculum. Courses in the EAP Program focuses on speaking and listening, reading and vocabulary, writing and grammar, and pronunciation.

Students interested in enrolling in the EAP Program must take the ESL ACCUPLACER test. This test assesses reading, listening and grammar ability.

Course*  Cr
EAPP 0760  High Intermediate Reading & Vocabulary  5
EAPP 0770  High Intermediate Writing & Grammar  5
EAPP 0780  High Intermediate Speaking & Listening  5
EAPP 0860  Advanced Reading & Vocabulary  5
EAPP 0870  Advanced Writing & Grammar  5
EAPP 0880  Advanced Speaking & Listening  5

Electives

Course*  Cr
EAPP 0900 Academic Reading and Writing  5
EAPP 1400 English Pronunciation for Academic and Professional Purposes  2
EAPP 1490 Special Topics in English for Speakers of Other Languages  1-6
Fine Arts/Humanities

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 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 to pursue. Art and art history classes fulfill requirements for the Minnesota Transfer Curriculum, as well as graduation requirements.

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<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<td>ARTS 1720  Art Appreciation</td>
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<tr>
<td>ARTS 1722  American Animation</td>
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<td>ARTS 1724  The Design of Everyday Life</td>
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<td>ARTS 1726  Art in the Cities</td>
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<td>ARTS 1730  Drawing 1</td>
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<td>ARTS 1731  Drawing 2</td>
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<td>ARTS 1732  Two-Dimensional Design</td>
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<td>ARTS 1733  Three-Dimensional Design</td>
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<td>ARTS 1740  Introduction to Painting</td>
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<td>ARTS 1742  Intermediate Painting</td>
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<td>ARTS 1744  Introduction to Watercolor Painting</td>
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<td>ARTS 1750  Introduction to Ceramics</td>
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<tr>
<td>ARTS 1752  Intermediate Ceramics</td>
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<tr>
<td>ARTS 1756  Metal Arts</td>
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<td>ARTS 1760  World Art</td>
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<tr>
<td>ARTS 1770  Art in America</td>
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<tr>
<td>ARTS 1780  Beginning Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1790  History of Photography</td>
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<td>ARTS 1795  Special Topics in Art</td>
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<tr>
<td>ARTS 2710  Advanced Studio Arts</td>
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</tr>
<tr>
<td>ARTS 2754  Advanced Ceramics</td>
<td>3</td>
</tr>
</tbody>
</table>

Department Faculty
Aaron Bommarito  651.846.1644  aaron.bommarito@saintpaul.edu
Aaron Jacobs  651.846.1763  aaron.jacobs@saintpaul.edu
Leigh Roethke  651.403.4023  leigh.roethke@saintpaul.edu

Drama and Theatre Overview

The Drama and 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.

<table>
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<tr>
<th>Course</th>
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<td>THTR 1716  Theatre Around the World</td>
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<td>THTR 1720  Exploring the Theatre Arts</td>
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<td>THTR 1725  Acting 1</td>
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<td>THTR 1730  Theatre Stagecraft and Production</td>
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<td>THTR 1731  Theatre Performance Practicum</td>
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<td>THTR 1732  Technical Theatre Practicum</td>
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<tr>
<td>THTR 1740  Fundamentals of Playwriting: Playwriting 1</td>
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<tr>
<td>THTR 1790  Special Topics in Drama and Theatre</td>
<td>1-6</td>
</tr>
<tr>
<td>THTR 2725  Acting 2</td>
<td>3</td>
</tr>
</tbody>
</table>

Department Faculty
Jimmy LeDuc  651.846.1630, ext. 5707  james.deluc@saintpaul.edu

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. Fields included in the Humanities are: art, architecture, 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.

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<tr>
<td>HUMA 1720  The Ancient and Medieval World</td>
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<tr>
<td>HUMA 1730  The Modern World</td>
<td>4</td>
</tr>
<tr>
<td>HUMA 1750  Culture and Civilization: Spanish-Speaking Cultures</td>
<td>3</td>
</tr>
<tr>
<td>HUMA 1770  The Art of Film</td>
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</tr>
<tr>
<td>HUMA 1780  American Film</td>
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</tr>
<tr>
<td>HUMA 1790  International Film</td>
<td>3</td>
</tr>
<tr>
<td>HUMA 1795  Special Topics in Humanities</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Department Faculty
Julia Haider  651.846.1686  julia.haider@saintpaul.edu
Leigh Roethke  651.403.4023  leigh.roethke@saintpaul.edu
Music Overview
The College offers Music courses to fulfill the Minnesota Transfer Curriculum requirements and graduation requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 1310 Applied Voice</td>
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<tr>
<td>MUSC 1320 Applied Piano</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 1700 Music Theory and Lab 1</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 1705 Music Theory and Lab 2</td>
<td>4</td>
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<tr>
<td>MUSC 1736 Classical Piano 2</td>
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<td>MUSC 1740 Music Appreciation</td>
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<tr>
<td>MUSC 1750 Jazz History</td>
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<tr>
<td>MUSC 1760 American Music</td>
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<td>MUSC 1765 Music of Latin America and the Caribbean</td>
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<tr>
<td>MUSC 1770 Music in World Cultures</td>
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<tr>
<td>MUSC 1790 Special Topics in Music</td>
<td>1-6</td>
</tr>
<tr>
<td>MUSC 2720 Music History 1: Medieval to Baroque</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 2721 Music History 2: Classical to Modern</td>
<td>3</td>
</tr>
</tbody>
</table>

Department Faculty
Michael Olsen 651.846.1630, ext. 5730 michael.olsen@saintpaul.edu

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.

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>PHIL 1700 Introduction to Philosophy</td>
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<tr>
<td>PHIL 1710 Logic</td>
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<tr>
<td>PHIL 1715 Philosophy of Scientific Reasoning</td>
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<tr>
<td>PHIL 1720 Ethics</td>
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<tr>
<td>PHIL 1722 Health Care Ethics</td>
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</tr>
<tr>
<td>PHIL 1724 Environmental Ethics</td>
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</tr>
<tr>
<td>PHIL 1740 World Mythology</td>
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<td>PHIL 1742 Greek and Roman Mythology</td>
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<tr>
<td>PHIL 1750 Eastern Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1760 World Religions</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1770 Feminist Philosophy</td>
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</tr>
<tr>
<td>PHIL 1790 Special Topics in Philosophy</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Department Faculty
Julia Haider 651.846.1686 julia.haider@saintpaul.edu
Jason Swartwood 651.403.4117 jason.swartwood@saintpaul.edu

Global Languages

American Sign Language (ASL) Overview
The American Sign Language (ASL) courses are central to the 30-credit American Sign Language Studies Certificate program which 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. If you are interested in the American Sign Language Studies Certificate program, please see the Program Requirements Guide in the Liberal Arts Program section.

Not all ASL courses meet the MnTC goals. Students may reference the course descriptions to see if a course meets Minnesota Transfer Curriculum goals.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ASLS 1411 American Sign Language 1</td>
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<td>ASLS 1412 American Sign Language 2</td>
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<td>ASLS 1413* American Sign Language 3</td>
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<td>ASLS 1414* American Sign Language 4</td>
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</tr>
<tr>
<td>ASLS 1415 American Sign Language 5</td>
<td>3</td>
</tr>
<tr>
<td>ASLS 1420 ASL Linguistics</td>
<td>4</td>
</tr>
<tr>
<td>ASLS 1430 Classifiers</td>
<td>3</td>
</tr>
<tr>
<td>ASLS 1435 Deaf Studies/Culture</td>
<td>3</td>
</tr>
<tr>
<td>ASLS 1443 ASL Fingerspelling and Numbers</td>
<td>3</td>
</tr>
<tr>
<td>ASLS 1446 ASL Non-Manual Markers</td>
<td>2</td>
</tr>
<tr>
<td>ASLS 1448 American Sign Language Semantics</td>
<td>2</td>
</tr>
<tr>
<td>ASLS 1469 Deaf Heritage of Minnesota</td>
<td>2</td>
</tr>
<tr>
<td>ASLS 1497 Special Topics in ASL</td>
<td>1-5</td>
</tr>
</tbody>
</table>

*Meets MnTC Goal 8

Department Faculty
Heather Virnig heather.virnig@saintpaul.edu
Rania Johnson rania.johnson@saintpaul.edu

Chinese Overview
Chinese language courses are designed to develop a basic competency in Chinese speaking, listening, reading, and writing; an appreciation for cultural diversity; and the application of conversational Chinese to work and life roles. Students with two years of high school Chinese are generally prepared for beginning courses while students with three to four years of high school Chinese are generally ready to enter intermediate courses. Students who enroll in Chinese courses fulfill the Minnesota Transfer Curriculum requirements as well as graduation requirements.

Guidelines for Placement in Chinese Courses

Students with little or no background in Chinese
If you have little or no background in Chinese, you should register for CHIN 1710 Beginning Chinese 1, which is the first course in our Chinese language sequence.

Students with college-level study of Chinese
If you have taken Chinese courses at another higher education institution, you should have your transcripts evaluated in order to determine appropriate placement.

Students with high school level study of Chinese
If you have studied Chinese for one year or less in high school, enroll in CHIN 1710 Beginning Chinese 1.

Guidelines for Placement in Chinese Courses

Department Faculty
Julia Haider 651.846.1686 julia.haider@saintpaul.edu
Jason Swartwood 651.403.4117 jason.swartwood@saintpaul.edu

Department Faculty
Michael Olsen 651.846.1630, ext. 5730 michael.olsen@saintpaul.edu
If you have studied Chinese for two or more years in high school and can answer “yes” to three or more of the following questions, then you should make an appointment with the Chinese language instructor to determine your placement.

1. Did you study Chinese during your junior AND senior years of high school?
2. Did you graduate from high school during the past two years?
3. Did your teacher speak Chinese to you in class?
4. Did you complete written homework and written compositions in Chinese on a regular basis?

Course  Cr
CHIN 1710  Beginning Chinese 1  5
CHIN 1720  Beginning Chinese 2  5
CHIN 1790  Special Topics in Chinese  1-6

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.

Guidelines for Placement in Spanish Courses
Students with little or no background in Spanish
If you have little or no background in Spanish, you should register for SPAN 1710 Beginning Spanish 1, which is the first course in our Spanish language sequence.

Students with college-level study of Spanish
If you have taken Spanish courses at another higher education institution, you should have your transcripts evaluated in order to determine appropriate placement.

Students with high school level study of Spanish
If you have studied Spanish for one year or less in high school, enroll in SPAN 1710 Beginning Spanish 1.

If you have studied Spanish for two or more years in high school and can answer “yes” to three or more of the following questions, then you may take a placement exam.

1. Did you study Spanish during your junior AND senior years of high school?
2. Did you graduate from high school during the past two years?
3. Did your teacher speak Spanish to you in class?
4. Did you complete written homework and written compositions in Spanish on a regular basis?

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
SPAN 1795  Special Topics in Spanish  1-6

Department Faculty
Angela De La Cruz  651.846.1560  angela.delacruz@saintpaul.edu

Non-credit placement:
Students can determine whether they have the linguistic proficiency to enroll in our second, third, or fourth semester Spanish courses by contacting the instructor of the course in which they wish to enroll. Instructors at Saint Paul College have several years of experience to determine a beneficial level for the student.

For-credit placement: College-Level Examination Program (CLEP):
This exam has a fee and you can earn college-level credit provided you achieve a certain level of proficiency. Students scoring 50 or above on the CLEP can get 6 credits of electives. Students scoring 66 or above can get credit for SPAN 1710 and SPAN 1720. For more information on how to take the CLEP exam go to saintpaul.edu/CLEP.

Placement and credit recommendation based on CLEP scores:

<table>
<thead>
<tr>
<th>CLEP score</th>
<th>Spanish Class student should take</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 or lower</td>
<td>Register for SPAN 1710 Beginning Spanish 1</td>
</tr>
<tr>
<td>35-44</td>
<td>Register for SPAN 1720 Beginning Spanish 2</td>
</tr>
<tr>
<td>45-54</td>
<td>Register for SPAN 1730 Intermediate Spanish 2</td>
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<tr>
<td>55-65</td>
<td>Register for SPAN 1740 Intermediate Spanish 2</td>
</tr>
<tr>
<td>66+</td>
<td>Credit for SPAN 1710 &amp; SPAN 1720</td>
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</tbody>
</table>

These guidelines are subject to change. Please, make sure you are following the most current version.

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
SPAN 1795  Special Topics in Spanish  1-6

Department Faculty
Angela De La Cruz  651.846.1560  angela.delacruz@saintpaul.edu
Social Science

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 that have shaped us and that 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.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>ANTH 1790</td>
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</table>

Economics Overview
Economics is a social science that studies how our society can achieve economic goals. These goals are divided into two main areas of macroeconomics and microeconomics. Goals in macroeconomics are full employment, price stability, and economic growth. Macroeconomics uses theoretical tools, historical perspective, and modeling to understand the development and functioning of macroeconomic policy. Macroeconomics explores how policy advocated by economists and political advisors is implemented and with what degrees of success. Microeconomics analyzes the economic decisions made by individual firms, organizations, and people. Microeconomic goals are maximizing individual and societies benefits using limited resources. Microeconomics uses modeling to understand how and why our resource markets work and provides insights into policies that make them more efficient. Studying economics helps students in many fields by providing a framework on which to analyze changes that are affecting our collective future.

<table>
<thead>
<tr>
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<tbody>
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<td>ECON 1790</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Department Faculty
Peter Lawson 651.403.4064 peter.lawson@saintpaul.edu

Geography Overview
Geography studies places and human activities across the earth. Geographers often ask where? and why? The field focuses on the distribution and changes in the location of ethnicities, resources, transportation, land use, industries, climate, physical land formations, etc. Many geography courses have both physical environment and human/cultural components. The geography faculty often have a global and interdisciplinary approach. Geography courses fulfill a number of requirements for the Minnesota Transfer Curriculum, Education majors, Social Science disciplines, and government and international careers. Special topics and field study courses are added occasionally.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
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<tbody>
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<td>1-6</td>
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</tbody>
</table>

Department Faculty
Shannon Trego 651.846.4074 shannon.trego@saintpaul.edu

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; however, students are not required to take these survey courses in chronological order. Students who plan to major 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.

<table>
<thead>
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</table>

Department Faculty
Kurt Kortenhof 651.846.1706 kurt.kortenhof@saintpaul.edu
Ayesha Shariff 651.846.1711 ayesha.shariff@saintpaul.edu
Political Science Overview

Political science is one of the most popular undergraduate majors preparing students for a wide variety of careers. It is also one of the most popular majors for those planning to attend law school. The political science faculty seeks to prepare students for advanced study by providing introductions to major areas of the discipline. Additionally, the faculty aims to prepare students for active and thoughtful citizenship.

<table>
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<td>1-6</td>
</tr>
</tbody>
</table>

Department Faculty
James Andresen 651.846.1665 james.andresen@saintpaul.edu

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.

<table>
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<td>PSYC 2720</td>
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Department Faculty
Nora Gibbons 651.846.1708 nora.gibbons@saintpaul.edu
Stephanie Hazen 651.846.1769 stephanie.hazen@saintpaul.edu
Lisa Schmitz 651.846.1530 lisa.schmitz@saintpaul.edu

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.

<table>
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<td>1-6</td>
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<td>SOCI 2720</td>
<td>4</td>
</tr>
</tbody>
</table>

Department Faculty
Kris D’Meier 651.403.4069 kris.dmeier@saintpaul.edu
Jolene Sundlie 651.846.1709 jolene.sundlie@saintpaul.edu

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 Pathway Advisor 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.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
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</table>

Related courses across the disciplines:
ANTH 1730 Gender and Culture in Global Perspective 3
BIOL 1785 Biology of Women 3
ENGL 2776 Women Writers 3
HIST 1770 History of Women in the United States 3
PHIL 1770 Feminist Philosophy 3
SOCI 1730 Sociology of Families and Relationships 3
COMM 1780 Gender Communication 3

Department Faculty
Ayesha Shariff 651.846.1711 ayesha.shariff@saintpaul.edu
Course Descriptions

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Course descriptions are subject to change.
The most current course descriptions are available at: saintpaul.edu/CourseSchedule.
The following course descriptions are alphabetized by academic 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 1410 Introduction to Accounting
Introduces the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include transaction analysis, double-entry accounting, and the accounting cycle process. Examples are drawn from service and merchandising organizations. 2C/2/0/0

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 1515 Payroll Processing
This course covers Federal and State laws related to compensation calculations, payment of salaries and wages, and related taxes. Also, included are hiring and termination laws. Topics include employment recordkeeping requirements, preparation of the payroll register, individual earnings records, and payroll related forms and reports. 3C/3/0/0

ACCT 1523 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. 3C/3/0/0

ACCT 2410 Financial Accounting
This course in financial accounting acquaints students with the concepts and practices of accounting to be able to interpret and analyze the financial accounting reports of economic entities. Topics include: economic context of accounting; introduction to basic financial statements, measurement fundamentals; analysis of financial statements; cash; receivables; inventories; investments in equity and debt securities; long-lived assets; current and long-term liabilities; stockholders’ equity; and financial performance measurement. 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
This course provides an introduction to the role of financial and managerial information in planning and control decisions, and the role of the management accountant in the organization. It emphasizes the concepts and practices of management accounting including cost behaviors, contribution margins, job, and process costing, budgeting, standard costs and variance analysis, and other managerial accounting best practices. Students analyze the management decision-making process via problem solving and case analysis. Understand the differences between managerial and financial accounting. 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 credits 2-8

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. (MnTC: Goal 8) 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) (MnTC: Goal 8) 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
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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 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 and 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 1444-1446 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 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 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 credits 1-5

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**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. (Prerequisite(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.” (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 10) 4C/4/0/0

**ANTH 1730 Gender and Culture in Global Perspective**
This course examines how sex, gender, and sexuality are culturally constructed through social structures, and how these influence the biological distinctions of male, female, and intersex individuals. Through a comparative approach, we will survey gender roles, values, and relative rank in various socioeconomic levels, including hunter-gatherer, horticultural, pastoral, agricultural, and industrial. Other material to explore will include the intersection between gender, race, class, and sexuality; the origins and consequences of patriarchy; the impact of the global economy on gender identities and self-perceptions; gender, politics, and social change; and the status of women and men in different kinship systems and families, and the power that accrues to them. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 8) 3C/3/0/0

**ANTH 1790 Special Topics in Anthropology**
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goal 5) Variable credits 1-6

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**Art**

**ARTS 1713 Photography 1**
This is a course devoted to introducing photography as a medium of creative expression and visual communication. Students are introduced to 35mm film cameras and the techniques used in the darkroom to create black and white photographs. Initial assignments address technical proficiency and then the emphasis transitions towards creative expression, aesthetics, and meaning. Classroom discussion will also establish a fundamental relationship between digital and film photography. A $200 camera deposit will be collected from students who borrow a film SLR camera. The deposit will be refunded at the end of the semester provided the camera is returned undamaged and in suitable working condition. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 3C/1/2/0
ARTS 1714 Photography 2  
This is a course devoted to fostering the skills and proficiency established in Photography 1 and allows students to experience a more meaningful amount of time to produce a body of creative work concentrating on one topic or thematic element. The intention of this course is for each student to produce a unique, high-quality, photographic portfolio that showcases technical and conceptual understanding of the photographic medium with the artwork produced. The accompanying lab section will dictate whether the student continues working in a darkroom or transitions into the digital photography lab. A $200 camera deposit will be collected from students who borrow a camera. The deposit will be refunded at the end of the semester provided the camera is returned undamaged and in suitable working condition. (Prerequisite(s): ARTS 1713 Photography 1 with a grade of “C” or better) (MnTC: Goal 6) 3C/1/2/0

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 will be viewed, discussed and analyzed in class. Students will also learn about the materials and processes of art making. Course includes visits to the Minneapolis Institute of Arts and the Walker Art Center. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 7) 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 and South Park Studios. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. Visual examples will range from furniture to advertisements, industrial design to digital media. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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/1/2/0

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/1/2/0

ARTS 1732 Two-Dimensional Design  
This course is a foundational study of the principles of two-dimensional design for an understanding of its nature and expressive possibilities. With the opportunity to develop a creative approach in working with its elements. This course will study basic approaches to understanding Notan, the elements of design and the principles of design through personal investigation. (MnTC: Goal 6) 3C/2/1/0

ARTS 1733 Three-Dimensional Design  
This course is a foundation level study of the principles and elements of three-dimensional design. Students will use a variety of media and art techniques to explore three-dimensional design, form, line, plane, volume, mass, space, texture, light, and time. Projects emphasize a working creative method for problem solving in three-dimensions as well as a general knowledge of historical and contemporary design issues. (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/1/2/0

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/1/2/0

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/1/2/0

ARTS 1756 Metal Arts  
This course is an introduction to aesthetics, tools, and techniques of creating 3-d works of art through Tungsten Inert Gas (TIG) welding and other assembly techniques. This course covers: safety concerns
while working in a metal shop, TIG meld welding, the correct use of filler rod, preparing, cutting, bending, finishing, and the significant properties of different metals. We will explore the creative uses of welding to convey meaning, composition, space, implied motion, creativity, metaphor, personal exploration, the organic elements of nature and the hard edges of human made objects while building a community of respectful artists. (MnTC: Goal 6) 3C/1/2/0

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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

ARTS 1770 Art in America
This course is an introduction to art and architecture in North America from the Colonial period to the present. Art in America is united by common historical events and includes Native American culture and influences outside of America. We will explore patterns of cultural interchange with particular emphasis on colonialism, revolution, and the search for national identities. We will also examine the impact of historic and current social movements and politics on art in America. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 3C/3/0/0

ARTS 1780 Beginning Printmaking
For centuries artists have used printmaking processes to create beautiful images on paper. This course is an introduction to the fundamentals of fine art printmaking. Students will be instructed in the following printmaking areas: monotype, collagraph, dry point linocut, and woodcut. In-class projects will focus on hands-on learning and experimentation as students progress toward assembling a fine art print folio of their work. (MnTC: Goal 6) 3C/1/2/0

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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 3C/3/0/0

ARTS 1795 Special Topics in Art
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 6) Variable credits 1-6

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 credits 3-4

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/1/2/0

Automotive Service

AUTO 1415 Introduction to Automotive Technology
This course covers industry safety practices, service manuals and technical bulletins, communication skills, and the use of measuring instruments. Also covers automotive terminology and introductory automotive maintenance procedures. (Prerequisite(s): Admission to the Automotive Service Program – Co-requisite(s): AUTO 1430, AUTO 1510, AUTO 1530) 4C/0/4/0

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)

AUTO 1441 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) 3C/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/0/3/0

AUTO 1523 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) 3C/0/3/0

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. 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/0/4/0

AUTO 2410 Starting & Charging Systems
Covers overhaul of components such as starters and alternators. Complete system diagnoses and repair are also included. 3C/0/3/0
AUTO 2420 Electrical Accessories
Covers the operation and servicing techniques of chassis wiring, lights, instruments and headlight aiming. How to read and interpret wiring diagrams will also be included. 3C/0/3/0

AUTO 2430 Engine Theory & Repair
Covers disassembly, inspection, repair and reassembly of the internal combustion engine. Repair procedures such as the replacement of piston ring, engine bearings and valve grinding are covered. 4C/0/4/0

AUTO 2440 Engine Installation
Covers the removal and installation of complete engine assemblies, transfer of parts and removal and installation of accessories. 2C/0/2/0

AUTO 2450 Introduction to Auto Computers
Covers the operation of computer systems of engines using feedback carburetors and fuel injection. Sensors and actuators that operate in the system will be studied and tested. 4C/0/4/0

AUTO 2513 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. 4C/0/4/0

AUTO 2520 Engine Drivability
Covers application of knowledge and skills gained when studying engine, fuel, ignition and computer systems. 3C/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. 4C/1/3/0

AUTO 2550 Specialized Lab 1
Covers the content goals listed or any other goals that the student and the instructor agree upon. The purpose of the course is for students to specialize in an area they prefer. (Prerequisite(s): Completion of all other listed courses) 2C/0/2/0

Biochemistry

BIOC 1730 Biochemical Laboratory Exploration
This course introduces students to procedures and guidelines relating to chemical, biological, physical, and biomedical research. Students will gain an understanding of good laboratory practices, intellectual property, standard operating procedures, clinical research practices, and lab safety. Students will also learn to communicate in a scientific manner. The lab component of the course will provide hands-on experience with the laboratory environment, clean room environment, and instrumentation used in scientific laboratories. (Prerequisite(s): CHEM 1711 or BIOC 1740 with a grade of “C” or better) (MnTC: Goal 3) 4C/3/1/0

BIOC 1790 Special Topics in Biochemistry
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 3) Variable credits 1-6

BIOC 2700 Biochemistry
This course includes structure and function of proteins, carbohydrates, nucleic acids, and lipids. Action and regulation of major metabolic pathways. Synthesis and degradation of biomolecules. Enzyme energetics, kinetics, and chemical basis for transmission of genetic information will also be discussed. Lab work will utilize applied biochemical techniques to reinforce topics covered in the lecture. This includes protein and lipid assays, examinations of metabolism, and analysis of sugars. Lab work will be designed to give the student experience using modern biochemical techniques and equipment. Responsible record keeping and conduct will also be emphasized. (Prerequisite(s): CHEM 2720 and BIOC 1740 with a grade of “C” or better or instructor permission) (MnTC: Goal 3) 4C/3/1/0

BIOC 2790 Biochemistry Internship/Research Project
This course provides students with an opportunity to design and carry out a research project under the supervision of a faculty advisor utilizing biochemistry in a lab setting. The research project will be prepared using literature review, problem identification, procedural documentation, data collection, data analysis, findings, conclusions, and recommendations for future research. The course will also provide an opportunity for field study in an approved internship setting. Evaluation will be carried out by faculty teams and experts in the field. (Prerequisite(s): Instructor approval) (MnTC: Goal 3) Variable credits 1-4

Biology

BIOL 1471 Medical 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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) 2C/2/0/0

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: ecology, human population growth, biotechnology, pollution, 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 and video and the use of internet-based resources. Two hours of lab per week are required and include group experiments, computer simulations, outdoor lab activities, and field trips. Traditional, hybrid, and online sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 4C/3/1/0

BIOL 1730 Human Body Systems
This course begins with a study of the structural organization of the human body and then proceeds with the study of cell structure, types of tissues and basic anatomy and physiology of major organ systems of the human body. The central theme will focus on how the body systems work together to maintain homeostasis and good health. Laboratory activities include the dissection of a preserved animal and animal organs. The course is intended for all interested students and required for programs like Medical Laboratory Technician, Practical Nursing, Respiratory Therapy Technician, and Pharmacy Technician. Traditional and hybrid sections are available. Two hours of lab per week are required. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 3) 3C/2/1/0

BIOL 1735 Understanding Biology
This course is designed for non-science majors or as a preparation for BIOL 1740. A basic introduction to the principles of cell biology and genetics will be covered. The course will also examine the plant and animal kingdoms and general principles of ecology and evolution. One main goal of this course is to provide students with an understanding of biology and research will utilize the material in relevant current events. Two hours of lab per week are required. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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. 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 BIOL 1745 General Biology 2: The Living World. Traditional, hybrid and online sections are available. Three hours of lab per week are required. (Prerequisite(s): READ 0722 with a grade of “C” or better, or concurrent enrollment, or appropriate assessment score. (MnTC: Goal 3) 3C/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. Three hours of lab per week are required and some activities involve the dissection of preserved animals and animal organs. Traditional, hybrid and online sections are available. (Prerequisite(s): BIOL 1740 General Biology 1 with a grade of “C” or better) (MnTC: Goals 3 & 10) 4C/3/1/0

BIOL 1760 Nutrition
This course explores the science of nutrition, including healthy diet fundamentals and the roles of carbohydrates, proteins, fats, vitamins, 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. This course includes hands-on, lab-like activities related to nutrition and health. Traditional, hybrid, and online sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 3) 3C/3/0/0

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, hybrid and online sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 3) 4C/3/1/0

BIOL 1785 Biology of Men and Women
This course is designed to allow students to explore significant facets of woman from many different angles across her life span from conception, through puberty, pregnancy, birthing and aging including specific health concerns ranging from osteoporosis, breast cancer, heart disease mental disorders and other chronic illnesses. Topics that will be covered include reproductive anatomy and physiology of sexes, sexual development and response, genetics, pregnancy, childbirth, reproductive issues & advances in assisted reproductive technologies which include contraceptive methods, infertility, impotency and sexually-transmitted diseases. Open to both male and female students, meant for non-science majors. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 9) 3C/3/0/0

BIOL 1790 Special Topics in Biology
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete details. (MnTC: Goal 3) Variable credits 1-6

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 hybrid 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, reproductive, urinary, endocrine, digestive, and lymphatic/immune 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. Human cadavers are also studied for two hours. (Prerequisite(s): BIOL 2721 Human Anatomy and Physiology 1 with a grade of “C” or better) Traditional and hybrid 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. Three 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) Traditional and hybrid sections are available. (MnTC: Goal 3) 4C/3/1/0

BIOL 2755 Genetics
Traditional and modern principles of genetics will be investigated through problem solving, molecular modeling and group discussion. The course will include exploration of genetics at the cellular and organismal level with special emphasis on human genetics. Students will have the opportunity to design and present research using genetic laboratory techniques. (Pre-requisite(s): BIOL 1740) 4C/3/1/0

BIOL 2760 Cell and Molecular Biology
This course is designed for Saint Paul College students interested in Biomedical or Biotechnology sciences as part of their core curriculum. It is also open to any student interested in the fields of cell biology and molecular genetics. Through laboratory investigations, students will learn the current concepts and techniques in molecular biology for a better understanding of the cell. Students will also learn the use of National Center for Biotechnology Information (NCBI) website for the analysis of genetic sequence and applying their findings to the treatments and cure of human disease, agricultural improvement, forensic science and a better understanding of evolution. Ethical and moral issues posed by molecular biotechnology will be explored and discussed. (Prerequisite(s): BIOL 2750 General Microbiology with a grade of “C” or better) (MnTC: Goal 3) 4C/4/1/0

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. (Prerequisite(s): Instructor approval) (MnTC: Goal 3) Variable credits 1-4
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 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 examined including the analysis of needs, motivation, attitudes, perceptions, decisions, and behavior. 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 1446 Sales and Account 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. 3C/3/0/0

BUSN 1449 Business Communications
This course presents an overview of the challenges associated with workplace expectations regarding business etiquette, appropriate use of technology, and proper attire. It assists students in gaining knowledge of how to appropriately communicate with others and how to effectively deal with conflict, teamwork, and accountability in a fair and ethical manner. It also enhances the basic skills necessary for obtaining a job and achieving success in today’s challenging economy and increasingly competitive work environment. 3C/3/0/0

BUSN 1480 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. 1C/1/0/0

BUSN 1490 E-Marketing
The Internet and other technologies have created many opportunities for businesses and organizations to communicate and create value for their customers. This course is designed to give students an understanding of E-Marketing strategies and how they fit into an overall integrated marketing and communications plan. Topics include direct marketing, internet advertising, performance analytics, search engine optimization and career opportunities in E-Marketing. 3C/3/0/0

BUSN 1492 Social Media Marketing
In this course students will learn successful marketing strategies using social media as an essential part of an integrated marketing strategy. Social media provides both a listening and outreach tool for promoting business, products and ideas. Social media ethics, legal issues and best practices will be covered. Various social media platforms such as Facebook, Twitter, YouTube and LinkedIn will be explored, as well as careers and jobs in Social Media Marketing. Students will analyze contemporary social media cases and strategies and develop a comprehensive social media marketing plan. Other topics include target marketing on the social web and rules of engagement. 3C/3/0/0

BUSN 1520 Customer Service
This course will present effective functioning in a service economy. Students will define and describe the nature, characteristics, and ways services need to be presented using basic customer service terminology. Students will learn skills to create positive customer relations. 3C/3/0/0

BUSN 1760 Principles of Finance
Principles and practices of business finance to help decision makers in a dynamic economy. Focus is placed on reviewing and analyzing financial statements, the time value of money, cash flow management, and risk and return. 4C/4/0/0

BUSN 1762 Money and Banking
This course provides an introduction to money and banking and presents a fundamental treatment of how money functions in the United States and world economies. It introduces the concept of money supply and the role of banks as money creators and as participants in the nation’s payments mechanism. The course explores the working of fiscal and monetary policy, the functions and powers of the Federal Reserve System, and various monetary theories. Also highlighted are major trends and issues in banking and international banking. 4C/4/0/0

BUSN 1770 The Business of Music
This course presents a broad overview of the recording and music industry, and explains how the various segments operate on a day-to-day basis; where monies are generated, who the key players are, how deals are made and broken, how to protect technologies that are changing the way that music is marketed, promoted, distributed, and heard. This course presents the career opportunities that are available within the industry, and the knowledge you’ll need to achieve your goals. 3C/3/0/0

BUSN 1780 Business Trends in Music
This course is essential for all artists, songwriters and music business people seeking successful careers in the music business. The course examines aspects of the evolving music industry, reflect on changes affecting it, and evaluate how these changes, technologies and powerful trends can directly impact your career. 3/3/0/0

BUSN 1782 Investments
This course provides a study of the core concepts of investments for Finance majors. It broadly covers financial instruments, such as equity, fixed income, and derivative securities, as well as key concepts studied in Principles of Finance. (Prerequisite(s): BUSN 1760 Principles of Finance) 3C/3/0/0

BUSN 1784 Principles of Risk Management and Insurance
This course examines the nature of risk and how it can be managed. Insurance is one of the tools used to respond to risk. It will be examined along with a multitude of other options that are available for risk management. (Prerequisite(s): BUSN 1760 Principles of Finance) 3C/3/0/0

BUSN 2110 Principles of Marketing
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, direct and online marketing, pricing strategies, advertising, sales promotion, public relations, personal selling and product distribution. Current marketing trends will be discussed. 3C/3/0/0

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 Nonprofit Law and Ethics
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. Ethical issues and concepts as they relate to nonprofit business will be discussed. 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 2459 Family and Personal Financial Planning
This course offers practical methods for managing individual and family finances. Tools, software and strategies will be explored to encourage responsible financial well-being. Students will write a financial plan consistent with individual goals and values that incorporate the areas studied in the course. 4C/4/0/0

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 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 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 2473 Project Management
This course is an introduction to project management. The course emphasizes the relationship of project management techniques to business decisions. Project management processes for initiating, planning, executing and closing down projects are covered. Specific techniques covered include work breakdown schedules, resource leveling, risk identification, contingency planning and other skills are covered. Each student will conduct a series of case studies using Microsoft Project as project management tools. 3C/3/0/0

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 credits 1-3

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 Technology

BTEC 1121 Introduction to Microsoft Word
This course provides an overview of the most commonly used features of Microsoft Word. Students will examine word processing concepts and use Microsoft Word to create and edit documents for professional, personal, and academic use. 1C/1/0/0

BTEC 1131 Introduction to Microsoft Excel
This course provides an overview of the most commonly used features of Microsoft Excel. Students will identify spreadsheet terminology and concepts, create formulas and functions, and create and edit spreadsheets, charts, and graphs for professional, personal, and academic use. 1C/1/0/0
BTEC 1151 Introduction to Microsoft PowerPoint
This course provides an overview of the most commonly used features of Microsoft PowerPoint. Students will identify presentation terminology and concepts. Students will create and edit presentations for professional, personal, and academic use. 1C/1/0/0

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, working with drives, 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 Office Specialist (MOS) certification exams. (Prerequisite(s): 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 Office Specialist (MOS) certification exams. (Prerequisite(s): BTEC 1421) 4C/0/4/0

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 website, add text and links, and create tables. 4C/0/4/0

BTEC 2410 Business Procedures
This course 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 explores expert level applications using Microsoft Office 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 in preparation for the Microsoft Certified Applications Specialist certification exams. Students create expert level documents, worksheets, databases, and presentations suitable for the business environment, coursework, and personal use. (Prerequisite(s): 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 credits 2-8

Cabinetmaking

CABT 1440 Wood Preparation and Repair
This course will cover wood preparation for finishing. Students will study in depth on the different abrasive products used in the wood industry and how to properly use them. Students will learn the various techniques for repairing both new and pre finished wood which may be damaged. Bleaching, filling grain, distressing, and aging techniques will also be covered. Students will master the techniques through various projects. 3C/2/1/0

CABT 1447 Wood Finishing 1
This course will concentrate on the colors of finishing. Students will learn color theory and how it applies to wood finishing. Various types of stains and methods of applying them will be covered in this course. Students will master the techniques through various projects. (Prerequisite(s): CABT 1440 Wood Preparation and Repair; Co-Requisite(s): CABT 1448 Wood Finishing 2) 3C/2/1/0

CABT 1448 Wood Finishing 2
This course will cover the various types of top coat finishes, application methods, and compatibility of various finishes. Students will master the techniques through various projects. (Prerequisite(s): CABT 1440 Wood Preparation and Repair; Co-Requisite(s): CABT 1447 Wood Finishing 1) 3C/2/1/0

CABT 1450 Print Reading
Introduces student to: blueprint reading, building trade drawings, architectural graphics, and symbols used in the trade, as well as an understanding of what a drafting person does. 2C/1/1/0

CABT 1455 Traditional Machining Methods
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 1460 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.
2C/1/1/0

CABT 1465 Furniture & Residential 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. (Co-requisite(s): CABT 1455) 5C/2/3/0

CABT 1470 CAD/CNC
In this course students will learn to use CAD software to design objects. Students will also learn to apply tool paths, choose tooling, save files, and CNC router operations. 2CR 0/2/0

CABT 1475 Industrial Machining Methods
This course will reinforce proper machine operation and safety on woodworking machinery. Advanced woodworking machinery 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. 4C/1/3/0

CABT 2450 Surface Applications
This course introduces students to laminates/veneers, the tools used for laminating, and laminate counter tops. Students will learn to measure, order material, layout, and fabricate laminate counter tops. Solid surface, stone products, and other types of counter tops are also covered. Various projects will give the students hands-on experience. 4C/1/3/0

CABT 2455 Casework & Millwork
This course introduces the student to frameless cabinetry which is also known as European cabinetry, or 32mm cabinetry. Hardware used in frameless cabinets will be covered and then students will learn design, layout, and build frameless cabinets using the boring machines and edgebanders. Commercial fixtures used in retail will also be covered in this course. (Co-Requisite(s): CABT 1475) 5C/1/4/0

CABT 2515 CNC Cabinet Design
In this course students will learn to lay out and design cabinets using cabinet design software. Students will learn to edit or modify within program to meet the given cabinet specifications and then convert to CAM files to be cut out on a CNC router. 3C/2/1/0

CABT 2690 Capstone Project/Open Lab
This course is to be taken the last semester the student is registered for Cabinetmaking. In this course students will use all that they have learned in previous courses to design a project, estimate materials and costs, order the materials, and then fabricate the project. 2C/0/2/0

CABT 2695 Internship
Students will go to work in one of our partnering wood industry shops to experience and learn in an actual shop environment. 2C/0/2/0

CABT 2700 Cabinetmaking - Open Lab
This course is for students with prior experience with woodworking terminology and shop safety; students wanting to upgrade their skills and knowledge to help them in the cabinetmaking industry. The student must be able to demonstrate the use of hand tools and portable power equipment. The student must meet with the instructor to see whether the student has the correct criteria in the cabinetmaking area. New students must meet with the instructor prior to registering for the class. Variable credits 1-2

CABT 2705 Specialty Finishes
This course will cover specialty finishes used in the furniture and cabinet industry such as crackle finishes, antiquing, and other faux finishes. Students will master the techniques through various projects. 2C/1/1/0

CABT 2790 Cabinetmaking Special Projects
This course is designed to create customized projects for students as needed on an individual basis. Variable credits 1-4

Carpentry

CARP 1110 Carpentry Remodeling Techniques
This 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 and 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. 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/3/0/0

CARP 1522 Power Tool and 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/3/0/0

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 Carpenter 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

CARP 2495 Special Topics in Carpentry  
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various program and pre-major course requirements. Please see a current Course Schedule for complete course details. Variable credits 1-6

Center for Manufacturing and Applied Engineering

(The following courses are restricted to the 360 Program – see an advisor for more information)

CMAE 1502 Technical Mathematics  
This is an introductory technical math course. The course is designed for students who have basic math skills and for those who need a review of basic technical math concepts. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of math/shop algebra and geometry. This course will show how these skills can model and solve authentic real-world problems. This is a blended on-line course utilizing Tooling “U”, D2L Brightspace. 5C/3/0/0

CMAE 1506 Introduction to Computers  
This c360 course provides essential, hands-on coverage of Microsoft Office suite which includes: Getting Started with Microsoft Office, new features and user interface; Word core skills and new features such as Design Themes and Live Preview; Excel key concepts and skills, table styles and conditional formatting; Access database creation, working in Layout view and Navigation Pane; PowerPoint fundamentals of creating well-designed presentations; Email/Netmail, D2L Brightspace, Smart Thinking, Computer Security and E-folio building. This course requires on-site lab attendance. 2C/1/1/0

CMAE 1510 Print Reading  
This course will orient the student in the basic skills and abilities required for understanding prints utilized in a manufacturing/industrial environment. Emphasis will be on interpretation of Geometric Dimensioning and Tolerancing symbols/principles; Alphabet of lines; Multi-view drawing (including Orthographic Projection, Isometric Views and Perspective Drawing); Title blocks; Revision systems; Identification of general/local notes; Dimensions and tolerances; Basic principles of math/shop algebra and geometry; Operation of basic machine tools including: drill press, vertical milling machine, engine lathe, precision and non-precision grinders, saws and precision measuring equipment. This course uses Tooling U and D2L Brightspace and Screencast. 2C/2/0/0

CMAE 1514 Safety Awareness  
This course is designed to align with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Safety. The course curriculum is based upon federaly-endorsed national standards for production workers. This course will introduce OSHA standards relating to personal protective equipment, HAZMAT, tool safety, confined spaces, and others. 2C/2/0/0

CMAE 1518 Manufacturing Processes and Production  
This course is designed to align with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Manufacturing Processes. The course curriculum is based upon federaly-endorsed national standards for production workers. This course emphasizes Just-In-Time (JIT) manufacturing principles, basic supply chain management, communication skills, and customer service. 2C/2/0/0

CMAE 1522 Quality Practices  
This course is designed to align with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Quality Practices. The course curriculum is based upon federaly-endorsed national standards for production workers. Emphasis is placed on Continuous Improvement concepts and how they relate to a quality management system. Students will be introduced to a quality management system and its components. These include corrective actions, preventative actions, control of documents, control of quality records, internal auditing of processes, and control of nonconforming product. 2C/2/0/0

CMAE 1526 Maintenance Awareness  
This course is designed to align with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Maintenance Awareness. The course curriculum is based upon federaly-endorsed national standards for production workers. The Maintenance Awareness course introduces the concepts of Total Productive Maintenance and preventative maintenance. Students are introduced to lubrication, electricity, hydraulics, pneumatics, and power transmission systems. 2C/2/0/0

CMAE 1528 Career Success Skills  
This is an introductory career success skills course. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills for a successful career. This course will identify the skills important to businesses and help the student assess his/her level of skill. The course will provide suggestions for how the student can improve his/her level of skill. This is an on-line course utilizing D2L Brightspace and Screencast. 1C/1/0/0

CMAE 1530 Machining Math  
This is a math course designed for students in a machine shop environment. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of math that relate directly to the machine shop and industrial manufacturing. This course will show how these skills can model and solve authentic real-world problems. This is a blended on-line course utilizing Tooling “U”, D2L Brightspace and proctored unit exams. (Prerequisite(s): CMAE 1502) 2C/2/0/0

CMAE 1532 Machine Tool Print Reading  
This course covers the principles of mechanical print reading. Course includes sketching, lines, dimensioning and tolerancing, and single/multi-view drawings. (Prerequisite(s): CMAE 1510 Print Reading) 2C/2/0/0

CMAE 1534 Machine Tool Technology Theory  
This course will address the machining theory related to the safety and operation of basic machine tools including: drill press, vertical milling machine, engine lathe, precision and non-precision grinders, saws and precision measuring equipment. This course uses Tooling U and D2L Brightspace. (Prerequisite(s): CMAE 1530 Machining Math and CMAE 1532 Machine Tool Print Reading) 2C/2/0/0

CMAE 1536 Machine Tool Technology 1  
This course will address the operations of a drill press, tool grinder, vertical milling machine, engine lathe, and saws. Machine safety, machine component identification, as well as turning, milling, sawing, bench work, drilling and single-point tool grinding projects are also included in the components listed above. The student will also learn the care and use of inspections and layout tools. (Co-Prerequisite(s): CMAE 1534 Machine Tool Technology Theory) 2C/0/2/0
CMAE 1538 Machine Tool Technology 2
This course will address the advanced operations of a drill press, vertical milling machine, engine lathe, surface grinder and saws. Machine safety, machine component identification, as well as turning, milling, sawing, drilling and surface grinding projects are also included in the components listed above. The student will also learn the care and use of high precision measuring equipment. (Prerequisite(s): CMAE 1536 Machine Tool Technology) 2C/2/0/0

CMAE 1540 Introduction to CNC Machining
This course is an introduction to CNC machining. The focus will center on CNC machining centers and will include the history of CNC machining, G & M codes, programming, set-up and operating procedures. This is an online course utilizing Tooling U and D2L Brightspace. Online Text: Mill CNC Programming. (Prerequisite(s): CMAE 1536 Machine Tool Technology) 1C/3/0/0

CMAE 1542 Geometric Dimensioning and Tolerancing
Students will engage in learning how to read prints with Geometric Dimensioning and Tolerancing applications. Each of the geometric controls will be examined so the student may determine the allowable variation in form and size between part features. The Y14.5 M standard will be part of the overall instruction. Using precision equipment most of the geometric controls will be inspected to print specifications. (Prerequisite(s): CMAE 1532) 2C/2/0/0

CMAE 1550 DC Power
This course covers the basic principles in DC electric circuits including series, parallel and complex circuit analysis, Ohm's Law, meters, conductors, insulators, resistors, batteries, and magnetism. The use and understanding of test equipment for circuit analysis is stressed. 3C/3/0/0

CMAE 1552 AC Power
This course covers investigation of alternating current and its behavior in resistive, inductive and reactive series, parallel, and series/parallel circuits; use of test instrumentation; and electromagnetic induction. 3C/3/0/0

CMAE 1554 Digital Electronics
This is a first course in Digital Electronics. The primary goals of this course are to help individuals acquire a fundamental knowledge of digital electronics, Boolean algebra, digital devices, analog to digital conversion and digital to analog conversion, and how to apply their knowledge and skills through problem solving, simulation and practical projects. This course requires on-site lab attendance. 3C/1/2/0

CMAE 1556 Analog Circuits
This course covers diodes, power supplies, transistor operation, biasing, and specifications along with amplifier configuration and applications. It also covers operational amplifier operation, applications, and related circuitry. Troubleshooting, design, and circuit analysis are emphasized. This course requires on-site lab attendance. 3C/2/1/0

CMAE 1558 Motor Controls
This course introduces the learner to motor control components and provides them with a basic knowledge of control circuitry. The learner will build on his/her experiences from Basic Electricity by designing, building, and troubleshooting more complex circuits. Devices such as contractors, motor-starters, relays, timers, mechanical, and proximity switches are used. Electronic motor controls and programmable devices such as variable frequency drives are introduced and in this course. (Prerequisite(s): CMAE 1550 and 1552) 3C/3/0/0

CMAE 1560 Interpreting Symbols
The welding profession requires a good working knowledge of the fundamental component of welding prints that make up structures in the welding industry. To accurately layout and fabricate parts, the welder will need basic knowledge of print lines, dimensions, notes, and welding symbols. The students will breakdown welding prints to develop the skills necessary to fabricate individual component parts that will make-up welded structures. Written and fundamental tests will be administered in accordance with the American Welding Society (AWS) and the appropriate correlating code books. 2C/2/0/0

CMAE 1562 OxyFuel Welding
This course covers the use of oxygen-fuel equipment while welding, cutting, brazing, and using the Plasma Arc Cutting (PAC) and Air Carbon Arc Cutting (CAC-A) processes. There will also be an introduction into laser cutting equipment. A very important part of this course will be discussing safety as it relates to the thermal welding and cutting equipment. Time will be spent in the lab developing skills using the thermal welding and cutting processes. Welds will be made in the flat, horizontal, vertical, and overhead positions. Cuts will be made in the flat and horizontal positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. This course requires on-site lab attendance. 3C/1/2/0

CMAE 1564 Shielded Metal Arc Welding (SMAW)
Students will study the safety concerns connected with the Shielded Metal Arc Welding (SMAW) process, along with an introduction into the types of power sources used for arc welding, process applications, electrode selections, overview of weld types, and other work-related safety conditions in the welding field. Time will be spent in the lab developing skills using the SMAW processes. Welds will be made in the flat, horizontal, vertical, and overhead positions. Written and fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. This course requires on-site lab attendance. 3C/1/2/0

CMAE 1566 Gas Metal Arc Welding (GMAW) / Flux Cored Arc Welding (FCAW)
Students will study the safety concerns connected with the Gas Metal Arc Welding (GMAW) and Flux Cord Arc Weld (FCAW). The GMAW process will be discussed in depth in relationship to the different type of modes of transfer available, shielding gases, and the different types of materials that can be welded. The FCAW process is similar in the type of equipment used for mode of transfer. The differences in the electrode types of gas-shielded wires and self-shielded wires will be discussed along with the types of shielding gases that are used. There will be discussions on the importance of how the welding process intersects with the arc welding symbols and codes. Along with this, we will also do a review of procedures used in the visual inspections of welds. Time will be spent in the lab developing skills using the GMAW and FCAW processes. Welds will be made in the flat, horizontal, vertical, and overhead positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. This course requires on-site lab attendance. (Prerequisite(s): CMAE 1564) 3C/1/2/0

CMAE 1568 Gas Tungsten Arc Welding (GTAW)
This course covers the safety hazards and applications for Gas Tungsten Arc Welding (GTAW) in the welding industry. Material covered in the classroom will be power sources, setup, types of current, current selection, shielding gases and torch types. Various procedures will be discussed for welding different metals (Aluminum, Stainless Steel, and Mild Steel) and potential problems that may be encountered. Applications for the process in different industries, and the use of back purging and its application will also be discussed. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. This course requires on-site lab attendance. (Prerequisite(s): CMAE 1564, 1566, 1570) 3C/1/2/0

CMAE 1570 Metallurgy
This course covers the study of metals and how the effects of welding and heat treatments affect them. Terminology dealing with metallurgy will be an important part of the course. Physical and mechanical properties of ferrous and nonferrous metals will be covered along with the classifications of the different types of metals. By understanding the mechanical properties of metals, you will gain an understanding of the range of usefulness of the materials in the metal working community. Written tests will be done in accordance with the American Welding Society (AWS) codes and standards. 1C/1/0/0
Chemistry

CHEM 1700 Chemistry Concepts
This laboratory science course covers the basic concepts of chemistry. Topics include measurements and calculations used in chemistry; the general properties of chemicals; physical characteristics of matter, atoms and elements; basics of chemical bonding; chemical equations and their uses; gases, liquids and solids; solutions; and acids and bases. The course relates chemistry concepts to applications in everyday life. The course is intended for students who have not had a high school chemistry course. (Prerequisite(s): MATH 0910 Introductory Algebra with a grade of “C” or better, or appropriate assessment score) (MnTC: Goal 3) 4C/3/1/0

CHEM 1711 Principles of Chemistry 1
This course uses the scientific method to study matter; what matter is comprised of and how matter changes. Basic chemical theory and applications are covered with an emphasis on the principles and theories of atomic and molecular structure; periodic properties of elements; thermochemistry; reaction stoichiometry; behavior of gases, liquids and solids; molecular and ionic structure and bonding; 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. High School chemistry is recommended. (Prerequisite(s): MATH 0920 Intermediate Algebra or CHEM 1700 Chemistry Concepts 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. (Prerequisite(s): CHEM 1711 with a grade of “C” or better) (MnTC: Goal 3) 4C/3/1/0

CHEM 2700 Organic Chemistry Survey
This course is a one semester survey course of topics in organic chemistry. This course is designed to give a basic understanding of the role that organic compounds play in nature as well as their industrial applications. Topics include an overview of covalent bonding, nomenclature, reactions, and stereochemistry. A variety of different organic functional groups will be studied including alkanes, aromatics, halides, alcohols, aldehydes, ketones, and carboxylic acids. The laboratory activities include an introduction to laboratory techniques used in chemical synthesis, and the use of chromatography and spectroscopy in the analysis of organic compounds. (Prerequisite(s): CHEM 1711 with a grade of “C” or better) (MnTC: Goal 3) 4C/3/1/0

CHEM 2720 Organic Chemistry 1
This course is the first semester of a two-semester sequence in organic chemistry. Topics include an overview of covalent bonding, acid-base chemistry, and reaction energetics. The course also covers nomenclature, stereochemistry, organic molecular structures, substitution and elimination reactions and reactions alkanes, alkenes, alkynes, and alcohols. The laboratory activities include an introduction to laboratory techniques used in organic chemical 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) 5C/4/1/0

CHEM 2721 Organic Chemistry 2
This course is a continuation of CHEM 2720 Organic Chemistry 1. Topics include amines, ketones, aldehydes, carboxylic acids, and their derivatives. Reaction mechanisms 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 biochemistry. The laboratory activities cover reactions, synthesis, and the chemical and instrumental identification of organic compounds. Three hours of lab per week are required. (Prerequisite(s): CHEM 2720 with a grade of “C” or better) (MnTC: Goal 3) 5C/4/1/0

CHEM 2730 Instrumental Analysis
This course introduces the principles of analytical methods and instrumentation. The theories and applications of various chemical and biochemical methods of analyses will be studied. Instrumentation methods including chromatography, spectrophotometry, microscopy, and others will be applied in laboratory to a variety of chemical and biological systems. Mathematical calculations, statistical analysis of data, and quantitative chemical analysis will also be incorporated. Students will also be introduced to standards important to quality control in regulatory environments, using documentation procedures and validation principles according to regulatory standards. (Prerequisite(s): CHEM 1711 with a grade of “C” or better) (MnTC: Goal 3) 4C/2/2/0

CHEM 2790 Science Technician Laboratory Research Project
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 a faculty member and an expert in the field. The course will also provide an opportunity for field study in an approved internship setting. (Prerequisite(s): Instructor approval) (MnTC: Goal 3) Variable credits 1-4

CHEM 2791 Cleanroom Lab Research Project
This course provides students with an opportunity to design and carry out a research project under the supervision of a faculty advisor utilizing the cleanroom facilities. The research project will be prepared using literature review, problem identification, procedural documentation, data collection, data analysis, findings, conclusions, and recommendations for future research. The course will also provide an opportunity for field study in an approved internship setting. Evaluation will be carried out by a faculty member and an expert in the field. (Prerequisite(s): Instructor approval) (MnTC: Goal 3) Variable credits 1-4

CHEM 2795 Special Topics in Chemistry
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course may be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 3) Variable credits 1-6

Child Development

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 1610 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): Completion of all certificate level coursework or instructor approval) 3C/3/0/0

CDEV 1640 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 and instructor approval) 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 certificate 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. 3C/3/0/0

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 credits 1–4

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) 2C/0/0/2

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 certificate level coursework) 2C/0/0/0

CDEV 2620 Practicum 2
Provides an opportunity to apply knowledge and skill in early childhood settings. Students implement a variety of learning experiences that are developmentally appropriate for and culturally sensitive to two different age groups and program settings. (Prerequisite(s): Successful completion of all other required AAS coursework and Instructor approval) 4C/0/0/4
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/collection of 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/0/0/0

Chinese Language

CHIN 1710 Beginning Chinese 1
This course introduces Mandarin Chinese language based on the knowledge of basic skills and strategies in listening, speaking, reading and writing in a general Mandarin speaking environment. Learners will acquire the language through a theme-based and function-based approach, but also by focusing on grammar whenever necessary. China’s culture and history are also important components of the course. At the end of the term, students are expected to be able to communicate some basic personal information, both oral and written. They will read and write simplified Chinese characters and learn some key components of Chinese culture and general knowledge of Chinese history. The course will also prepare students for further studies in Chinese. This course consists of five hours per week of instruction and in-class discussion in addition to homework, tape assignments, and on-line practice. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 8) 5C/4/1/0

CHIN 1720 Beginning Chinese 2
As the second part of the Accelerated Modern Chinese course series, this course is designed for heritage speakers of Chinese or those who have completed CHIN 1710 at Saint Paul College. The purpose of this course is to help students improve their ability in listening, speaking, reading, and writing Chinese. It particularly aims to help students develop a more sophisticated vocabulary and enhance reading and writing ability in Chinese. As with CHIN 1710, the course consists of five hours per week of instruction and in-class discussion, homework, tape assignments and on-line practice. (Prerequisite(s): CHIN 1710 with a grade of “C” or better or instructor approval) (MnTC: Goal 8) 5C/4/1/0

CHIN 1790 Special Topics in Chinese
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 8) Variable credits 1-6

CNC Technology

CNCT 1412 Machine Tool Theory
This course covers a general orientation, an overview of careers, shop safety, measurement, precision tools, hand tools, bandsaw machines, lathe theory, drill press and tooling, and vertical milling machines 2C/1/1/0

CNCT 1422 Blueprint/CAD
The blueprint portion of this course covers view orientations, section views, finish, dimensioning, part tolerance, and machining symbols. The CAD portion uses SolidWorks as the CAD software of instruction and application. Basic construction of solid modeling, engineering drawings, and assemblies will be covered. 4C/2/2/0

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 1705 Introduction to CNC Machining
This course will introduce the basics of CNC machining, including understanding G and M codes. 4C/3/1/0

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. (Prerequisite(s): CNCT 1431 with a grade of “C” or better) 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 1431 with a grade of “C” or better) 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 with a grade of “C” or better) 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 with a grade of “C” or better) 4C/2/2/0

CNCT 1744 Metrology
This course covers the identification, use and care of precision measuring devices used in manufacturing. Students will learn through lecture and lab how to perform accurate measurements in a repeatable manner. Standard hand devices as well as manual and programmable coordinate measuring machines, vision systems, and optical comparators will be addressed. Theories in quality control principles will be introduced. 4C/3/1/0

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 provide additional theory and online assignments. (Prerequisite(s): CNCT 1740 with a grade of “C” or better) 4C/4/0/0

CNCT 2420 Mechanical Systems/EDM
The focus of this hybrid 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. (Prerequisite(s): CNCT 1740 with a grade of “C” or better) 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 1740 with a grade of “C” or better) 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 1740 with a grade of “C” or better) 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 with a grade of “C” or better) 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. (Prerequisite(s): CNCT 1430, CNCT 1431 with a grade of “C” or better) 4C/1/3/0

**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 with a grade of “C” or better, CNCT 1731 with a grade of “C” or better or concurrent) 4C/2/2/0

**CNCT 2550 Industry Internship**
This industry internship will expose the student to manufacturing, and will provide operator training and workplace safety. (Prerequisite(s): A grade of “C” or better in all program courses.) 4C/0/0/4

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**College & Career Planning Success Strategies**

**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 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

**CSCR 1406 Study Skills and College Success Strategies**
This course is designed to help students identify and develop necessary skills and strategies to enhance study skills and college success. Focused topics will include college expectations, overcoming barriers to success; study skills such as time management and note-taking; learning styles; college resources; and maintaining physical, mental, and emotional health. 2C/2/0/0

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**Communications**

**COMM 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 & 7) 3C/3/0/0

**COMM 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

**COMM 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 & 7) 3C/3/0/0

**COMM 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. (Prerequisite(s): Grade of “C” or better in READ 0721 or appropriate assessment score) (MnTC: Goals 5 & 9) 3C/3/0/0

**COMM 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

**COMM 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, which 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

**COMM 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
COMM 1790 Special Topics in Communications
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 1) Variable credits 1-6

Computer Science

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. (Prerequisite(s): Grade of “C” or better in MATH 0910 or appropriate assessment score.) 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. (Prerequisite(s): Grade of “C” or better in MATH 0910 or appropriate assessment score.) 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. (Prerequisite(s): Grade of “C” or better in MATH 0910 or appropriate assessment score.) 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 e-commerce. Students will design and program HTML Web pages, tutorials and publish a website project. (Prerequisite(s): Grade of “C” or better in MATH 0910 or appropriate assessment score.) 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): CSCI 1450) 4C/4/0/0

CSCI 1523 Introduction to Computing and Programming Concepts
This course is focused on computational problem solving. Students must engage in problem-solving tasks such as clarifying any ambiguous aspects of the problem definition, decomposing the problem into subproblems, deciding which computer-related problem solving strategies (such as recursion) might be useful in solving the problem, constructing a solution, implementing the solution as a computer procedure, and verifying that the solution is correct (including modifying it when it is not). (Prerequisite(s): CSCI 1410) 4C/4/0/0

CSCI 1524 Introduction to Algorithms and Data Structures
This course is focused on the use of algorithms and data structures to solve problems. Students will solve various problems using appropriate software design methods and software tools. For example, students need to decide which problem solving strategies (such as divide and conquer) might be useful for a specific problem, construct a solution, design appropriate data types and algorithms, and verify the correctness of the solution. (Prerequisite(s): CSCI 1410 and CSCI 1523 and CSCI 1541) 4C/4/0/0

CSCI 1531 Objective-C Programming
This is a rigorous first course in Objective-C programming which is the primary development language for OSX and iOS devices. The course begins with C language features and quickly moves to the object-oriented extensions provided by Objective-C. Objects, classes, and messages are explored in depth. Concepts include: inheritance, polymorphism, dynamic typing, categories, protocols, and memory management. The Cocoa application framework is studied and the XCode development environment is used extensively. Previous exposure to C, C++, or Java is assumed. (Prerequisite(s): CSCI 1410) 4C/4/0/0

CSCI 1533 ANSI C Language Programming
This course is an intermediate introduction to Language C and the tools used to develop executable programs. The course reviews elementary C programming concepts at a rapid pace and continues with Language C development using simple data structures such as arrays and linked lists. This is followed by a detailed review of how memory is managed in Language C, pointers, referencing and dereferencing, C structures and abstract data types. Students should expect that all programming will be done at the command line using command line editors and Linux as the operating system. (Prerequisite(s): CSCI 1523) 2C/2/0/0

CSCI 1541 Java Programming
This course covers the syntax of the Java programming language and object-oriented programming with the Java programming language. It includes variables, primitive data types, decision structures, loops, file I/O, methods, classes arrays, text processing, wrapper classes, and inheritance. Students will learn how to develop Java applications using the command line interface. (Prerequisite(s): CSCI 1410) 4C/4/0/0

CSCI 1542 Java Programming 2
This course provides students with first-hand experience creating graphical user interface (GUI) applications using AWT, Swing, and JavaFX classes. Students will learn how to handle exceptions and create Java applets. Students will create Java applications to create connect to, and manipulate an SQL database. Students will learn Java concurrency and a multi-thread application will be created. Students will also have exposure to JUnit testing. (Prerequisite(s): CSCI 1410 and CSCI 1541) 4C/4/0/0

CSCI 1544 Enterprise Operating Systems
This course provides an integrated view of using IBM zEnterprise systems to prepare students to take the IBM System Z Mastery test. An overview for zEnterprise hardware concepts, zOS operating system concepts, and interactive facilities, such as TSO/E, ISPF and UNIX will be presented. The roles of virtual and physical storage,
LPARs, Parallel Sysplex, z/VM, and cluster technologies to provide scalability and continuous availability within zEnterprise systems are discussed. Students will be provided hands-on experiences using z/FS data sets, ISPF, SDSF, JCL, and JES3. A batch COBOL application will be edited, compiled, linked, and executed and debugged. CICS applications, WebSphere (J2EE) applications, and WebSphere MQ services will be compared as alternatives to zEnterprise interfaces, middleware and OLTP transactional services. An overview of system programming and z/OS, zEnterprise database management systems, clients and utilities, eg., DB2, IMS, SPFU, QMF, z/OS HTTP web server, VTAM, TCP/IP, and RACF (IBM Security Server) will be introduced. Access to a zEnterprise system, hands-on exercises, and online support materials are important components of this course. (Prerequisite(s): CSCI 1410 and CSCI 1423) 4C/4/0/0

CSCI 1546 COBOL Programming 1
This course provides the student with the hands-on skills to develop and debug COBOL applications in a zEnterprise system. Students will be introduced to TSO logon procedures, JCL, the ISPF, RDz, and SDSF. Fundamental COBOL coding rules, syntax, sequential batch report file processing, arithmetic verbs, conditional control structures, level 88, data validation, utility sorting, control-break logic, and processing and searching single-level tables are presented. (Prerequisite(s): CSCI 1410 and CSCI 1423) 4C/4/0/0

CSCI 1547 COBOL Programming 2
Students will be introduced to Virtual Storage Access Method (VSAM). The structure and application of Virtual Storage Access Method (VSAM) datasets, i.e., ESDS, KSDS, and RRDS, are compared. Using the IDCAMS utility, students will create and manage VSAM clusters to support basic file maintenance applications. Other COBOL topics include advanced table processing; batch ESDS, KSDS, and RRDS processing and updating, and the use of sub-programs. Additional concepts covered are structured program design considerations, the interrelationship of programs within an information system, coding for program efficiency and clarity, and the creation and use of quality program documentation. (Prerequisite(s): CSCI 1410 and CSCI 1546) 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 MYSQQL. This course is based on AC4M specifications for a first course in Database Systems. (Prerequisite(s): CSCI 1410) 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. (Prerequisite(s): CSCI 1410 and CSCI 1550) 3C/3/0/0

CSCI 2420 Computer Security
This course is a comprehensive introduction to computer security. The course is an in-depth introduction the concept of cybercrime 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. (Prerequisite(s): CSCI 1423, CSCI 2451 and CSCI 2461) 4C/4/0/0

CSCI 2440 Client Side Programming 1
This course introduces JavaScript programming and the skills needed to create dynamic, client-side web pages. The basics of JavaScript programming are covered, including: basic scripting, control statements, functions, arrays, and objects. Students will then explore the DOM (Document Object Model), JavaScript event handling, DHTML (Dynamic HTML) and select advanced topics. Class sessions include hands-on work and lectures. This course assumes a working knowledge of HTML and a previous introduction to CSS (Cascading Style Sheets). (Prerequisite(s): CSCI 1450) 4C/4/0/0

CSCI 2442 Server Side Programming
This course is designed for students interested in developing the server-side skills needed to create dynamic, data-driven websites. This course uses the popular server-side programming language PHP to interact with SQL databases. Fundamental techniques are covered, including: connecting to a database and performing basic database operations to create, read, update, and delete data. HTML form elements are reviewed and then form processing is discussed as well as writing functions for data validation. Server-side scripting is used to generate dynamic web pages. Students will learn how to authenticate users, manage user requests, and maintain user state through sessions and cookies. (Prerequisite(s): CSCI 1450) 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 systems, (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. (Prerequisite(s): CSCI 1410 and CSCI 1423) 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 2451 and CSCI 2461) 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 virtualbox. 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 2451 and CSCI 2461) 4C/4/0/0

CSCI 2460 Discrete Structures of Computer Science
This course addresses the foundations of discrete mathematics with application of computer science. Sets, sequences, functions, big-O, propositional/predicate logic, proof methods, counting methods, recursion/recurcences, relations, trees/ graph fundamentals are covered in detail. (Prerequisite(s): CSCI 1410 and MATH 1730 or higher) 4C/4/0/0
CSCI 2461 Computer Networking 3 – Linux
This course provides an in-depth study of Linux based operating systems administration and networking. The installation configuration and management of Linux-based servers is covered in-depth. The course also covers the configuration of Linux-based operating systems in a network environment. Students will spend a significant amount of the classroom meeting time conducting hands-on laboratory exercises. With extensive outside study and review students in this course may become prepared to become certified as systems administrators. (Prerequisite(s): CSCI 1410 and CSCI 1423) 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 Schemas 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): CSCI 1450) 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. (Prerequisite(s): CSCI 1410 and CSCI 1440) 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. (Prerequisite(s): CSCI 1410 and CSCI 1450 and CSCI 1541) 4C/4/0/0

CSCI 2469 Advanced Programming Principles
The class is focused on principles that underlie the structure and analysis of programs. Students will learn different programming styles, such as those based on functional programming, search-based programming, and concurrent programming, and will learn to program over abstract structures. Applications will allow students to learn about modular development and language principles to support modularity. (Prerequisite(s): CSCI 1410 and CSCI 1523 and CSCI 1541) 4C/4/0/0

CSCI 2470 Enterprise Data Base Systems
This course focuses on the design, implementation, testing and integration of an IBM DB2 enterprise database with a COBOL DB2 API application. Relational Data Modeling within a business requirement context will be presented. Using a 3270-terminal emulation client, the student will be introduced to SPUFI and QMF to execute SQL batch and static SQL statements. Using DB2L, DCLGEN, ISPF, and SDSF students will code and test COBOL DB2 dynamic SQL interactive applications. The DB2 COBOL application development process, e.g., DB2 Precompile, COBOL load modules, DBRM, packages and plans will be presented. Implementation of cursors, currency, null processing, error handling, basic security and administration will be also presented. Basic SQL DDL commands will be introduced using RDz. (Prerequisite(s): CSCI 1410 and CSCI 1423 and 1546) 4C/4/0/0

CSCI 2472 enterprise Transaction Processing (CICS)
This course focuses on the CICS Enterprise Transaction Processing System and CICS COBOL applications. CICS architecture, online resource definition (CEDA), CSD data sets, and legacy CICS resource tables are presented. Students will design, prepare (DFHMAPS) and code a BMS mapset to generate physical and symbolic maps. Using a pseudo-conversational and modular style, students will develop, prepare (DFHYTIVL), and test CICS COBOL VSAM and DB2 applications using the CICS EXEC and EXEC SQL APIs. Popular CICS-supplied transactions, e.g., CESN, CESS, CEMT, CECI, and CEDA will be reviewed. Using CICS as an HTTP Server to interface with a WebSphere Application Server (WAS) and WebSphere MQ will be introduced. (Prerequisite(s): CSCI 1410 and CSCI 1423 and CSCI 1546) 4C/4/0/0

CSCI 2475 A+ Hardware/Operating System Preparation
This 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. (Prerequisite(s): CSCI 1410 and CSCI 1440) 4C/4/0/0

CSCI 2480 Network Security and Penetration Prevention
This course examines the critical defensive technologies needed to secure network perimeters. Coverage includes network security threats and goals, advanced TCP/IP concepts, router security, intrusion detection, firewall design and configuration, IPSec and virtual private network (VPN) design, and wireless design and security. (Prerequisite(s): Grade of “C” or better in CSCI 2420, 2431, 2461, and 2465) 4C/4/0/0

CSCI 2482 Security Incident Handling, Response and Disaster Recovery
This course provides an overview of the process of creating and implementing policies and procedures for responding to security incidents and for disaster recovery. The student will gain skills in creating policies for responding to security incidents as well as the business continuity and disaster recovery aspects of the incident response plan. (Prerequisite(s): Grade of “C” or better in CSCI 1523, 2420, and 2465) 4C/4/0/0

CSCI 2484 Ethical Hacking and Countermeasures
This course provides an introduction to ethical hacking and security testing. Topics include tools and techniques used to detect system vulnerabilities. Students will learn how to set up defensive systems and countermeasures. (Prerequisite(s): Grade of “C” or better in CSCI 1523 and CSCI 2420) 4C/4/0/0

CSCI 2560 Introduction to Computer Games
This course deals in an elementary and introductory manner with the design and creation of computer games. 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 programming before entering this course. The work for this course will include a variety of projects. (Prerequisite(s): CSCI 1410 and CSCI 1541) 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; multiprocessor will be introduced; 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. 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. (Prerequisite(s): CSCI 1523) 4C/4/0/0

CSCI 2597 Special Topics in Computer Science This course provides learning experiences that meet the needs of students, major programs, and the College in the area of computer science. (Prerequisite(s): Instructor approval) Variable credits 1-6

CSCI 2621 Ruby on Rails This course introduces the Ruby on Rails framework for developing web applications. Ruby is considered a 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 model-view controller paradigm is utilized for developing database-driven websites. The course assumes familiarity with HTML and knowledge of client side programming. This is a hands-on course designed for students to develop functioning database driven websites. (Prerequisite(s): CSCI 1450 and CSCI 2442) 4C/4/0/0

CSCI 2622 Client Side Programming 2 This course is an advanced course in JavaScript programming for the client and the server. It covers key technologies such as AJAX, Bootstrap and Node.js. The course begins with the elementary aspects of AJAX programming with practical examples. Next, the bootstrap framework is explored, with a focus on Responsive Web Design to accommodate displays for all devices, from small mobile phones, to medium tablets to large desktop environments. Finally, an introduction to the Node.js runtime environment is explored, including server configuration and fundamental Node.js commands. In addition, advanced JavaScript topics and techniques currently used in industry will be covered. The key elements of the course are hands-on exercises utilizing tools and techniques to develop interactive websites. This course assumes a previous introduction to JavaScript. (Prerequisite(s): CSCI 1450 and CSCI 2440) 4C/4/0/0

CSCI 2628 Programming iOS Devices This course introduces the software, tools and techniques necessary to program popular iOS Devices from the Apple computer company. Students will learn how to write programs that can run on the iPhone, iTouch and iPad. The course will introduce the software development kits for iOS Devices, 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 1410 and CSCI 1523 and CSCI 1531) 4C/4/0/0

CSCI 2629 Programming Android Devices This course introduces the software, tools, and techniques necessary to program 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 1410 and CSCI 1541) 4C/4/0/0

CSCI 2630 Metaverse Application 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. (Prerequisite(s): CSCI 1541) 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. (Prerequisite(s): CSCI 1541 and CSCI 2630) 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

Cosmetology, Nail Care and Esthetician Core Courses

COSM 1601 Preclinic Hair Care 1 Provides students with the opportunity to develop basic hair skills with a focus on trichology, shampooing, conditioning, cutting and finishing hair techniques. (Prerequisite(s): Completion of or concurrent enrollment in CHSN 1599, CHSN 1598) 3C/0/3/0

COSM 1602 Preclinic Hair Care 2 Provides students with the opportunity to continue to develop hair service skills with a focus on shampooing, conditioning, styling, sectioning, and color and chemical reformation in hair. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1601) 3C/1/2/0

COSM 1603 Preclinic Nail Care Provides an introduction to nail care including manicuring, pedicuring and artificial nails. (Prerequisite(s): Completion of or concurrent enrollment in CHSN 1599 and CHSN 1598) 3C/1/2/0

COSM 1604 Preclinic Skin Care Provides fundamental guidelines for maintaining and enhancing the skin through proper skin care, massage, hair removal and makeup.

COSM 1606 Preclinic Chemical Control Provides an introduction to cosmetology chemicals and their applications. This includes curl reformation, permanent waving, soft curl perming and chemical relaxing. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1601 and COSM 1602) 3C/1/2/0

CHSN 1599 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

COSM 1605 Preclinic Hair Color Provides an introduction to temporary, demi-permanent, permanent and de-colorization hair color services. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1606) 3C/1/2/0

COSM 1620 Advanced Hair Care Provides advanced skill training, color and chemical reformation in hair cutting and styling. (Prerequisite(s): Completion of or concurrent enrollment in COSM 1605) 4C/1/3/0

Course Descriptions
CHSN 1598 Body Systems and Diseases
This course presents cells, tissues, 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

COSM 1901 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): COSM 1602) 3C/0/3/0

COSM 1902 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): COSM 1602) 3C/0/3/0

COSM 1903 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): COSM 1602) 3C/0/3/0

COSM 1904 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): COSM 1602) 3C/0/3/0

COSM 1905 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): COSM 1602) 3C/0/3/0

COSM 1906 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): COSM 1602) 3C/0/3/0

COSM 1907 Clinic 7
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): COSM 1601, COSM 1602, COSM 1603, completion or concurrent enrollment. Co-Requisites: COSM 1601, COSM 1602, COSM 1603)

COSM 1908 Clinic 1 for Nail Technicians
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. (Co-requisite(s): 1603)

ESTH 1651 Clinic 1 for Estheticians
This course is designed to provide clinical practice of previously learned skin care skills. (Prerequisite(s): CHSN 1599, CHSN 1598, ESTH 1645 and ESTH 1650 or concurrent enrollment) 4C/0/4/0

ESTH 1652 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 Minnesota Laws and Rules. (Prerequisite(s): Students must have 480 clock hours and have completed all preceding courses in the Esthetics program, ESTH 1651) 4C/0/4/0

ESTH 1645 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, lash and brow tinting and temporary hair removal (Prerequisite(s): CHSN 1599, CHSN 1598, concurrent enrollment or within the same semester) 4C/3/1/0

ESTH 1650 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 1599, CHSN 1598 and ESTH 1645, concurrent enrollment or within the same semester) 4C/3/1/0

CHSN 1461 Clinic 1 for 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 COSM 1905 or COSM 1901 or CHSN 1461) 1C/0/1/0

COSM 1952 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 COSM 1905 or COSM 1901 or CHSN 1461) 2C/0/2/0

COSM 1953 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 COSM 1905 or COSM 1901 or CHSN 1461) 3C/0/3/0

COSM 1954 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 COSM 1905 or COSM 1901 or CHSN 1461) 4C/0/4/0

COSM 1955 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 COSM 1905, or COSM 1901 or CHSN 1461) 5C/0/5/0

COSM 1956 Salon Operations 6 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 COSM 1905 or COSM 1901 or CHSN 1461) 6C/0/6/0

CHSN 1461 Clinic 1 for Nail Technician Majors
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

ESTH 1610 Legal Risk Management for Estheticians
This course will cover risk, risk management, and professional liability in relation to estheticians providing services in a medical office. Client health and safety as well as personal health and safety will be addressed. Additional topics covered will include OSHA and HIPPA guidelines, scope of practice, liability insurance, client medical and lifestyle history and client expectations. Must be enrolled in Esthetician Advanced Practice AAS or Esthetics Medical Setting Advanced Certificate. 2C/2/0/0

ESTH 1612 Peels and Chemical Exfoliation
Identification of ingredients and their effect on the skin will be covered. Course will provide knowledge of application and depths of chemical peels offered in a medical setting under the supervision of a physician. Must be enrolled in Esthetician Advanced Practice AAS or Esthetics Medical Setting Advanced Certificate. Must be enrolled in Esthetician Advanced Practice AAS or Esthetics Medical Setting Advanced Certificate. (Prerequisite(s): ESTH 1610) 3C/2/1/0

ESTH 1614 Advanced Skin Treatments
This course presents the theory of advanced skin treatments offered in a medical setting under the supervision of a Physician. Included will be the theoric knowledge of therapeutic peeling of the skin through use of Lasers, permanent hair reduction using lasers, cellular stimulation through the use of Light Emitting Diodes, the therapeutic application of Ultrasound and Micro-current use in both skin and body applications. Must be enrolled in Esthetician Advanced Practice AAS or Esthetics Medical Setting Advanced Certificate. (Prerequisite(s): ESTH 1612) 3C/2/1/0

ESTH 1651 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 ESTH 1652) 1C/0/1/0

ESTH 1652 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 ESTH 1652) 2C/0/2/0

ESTH 1653 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 ESTH 1652) 2C/0/2/0

ESTH 1670 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 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 1405 Culinary Arts Foundations 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. 2C/0/2/0

CULA 1415 Culinary Arts Foundations 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 Arts Foundations 1 or have instructor approval. 4C/0/4/0

CULA 1425 Fundamentals of Pastry
This course provides a thorough exploration into the basics of the sweet kitchen. Students prepare and evaluate a number of pastry fundamentals to a marketable level. (Prerequisite(s): CULA 1405 or instructor approval) 1C/0/1/0

CULA 1435 Butchery and Charcuterie
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 1405 or concurrently with CULA 1405) 2C/0/2/0

CULA 1440 Breakfast Cookery
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 1405 and CULA 1415 or concurrently with CULA 1405) 1C/0/1/0

CULA 1445 Food Service Practicum
Students explore various aspects of quantity food production in a fast-paced, high-volume food service setting. Students are introduced to aspects of quantity range, bake shop, short-order and pantry operations. (Prerequisite(s): CULA 1405 and CULA 1415) 2C/0/2/0

CULA 1455 Food Safety and Sanitation
Develops an understanding of the basic principles of sanitation and safety in order to maintain a safe and healthy environment for the consumer. Optional ServSafe exam provided for certification. 2C/0/2/0

CULA 1460 Applied Menu Composition
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 1405 and 1415 or concurrently with CULA 1405 and 1415) 2C/0/2/0

CULA 1465 Culinary Nutrition Theory
Covers the fundamentals of nutrition theory taught from the point of view of the chef. Healthy cooking techniques, dietary requirements and current nutritional research topics are explored. 2C/2/0/0

CULA 1490 Restaurant Industry Applied 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 1505 Contemporary Bake Shop Production
Allows students to develop production baking skills to a marketable level. (Prerequisite(s): CULA 1455, CULA 1460, CULA 1465, CULA 1490) 2C/0/2/0

CULA 1515 Contemporary Pantry Production
Allows the students to develop marketable production skills in the pantry/cold food area. (Prerequisite(s): CULA 1455, CULA 1460, CULA 1465, CULA 1490) 2C/0/2/0

CULA 1525 Contemporary Range Production
Allows the students to develop marketable skills in many aspects of hot food preparation in a production kitchen environment. (Prerequisite(s): CULA 1455, CULA 1460, CULA 1465, CULA 1490) 2C/0/2/0
CULA 1535 Catering Practicum
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 1455, CULA 1460, CULA 1465, CULA 1490) 1C/0/1/0

CULA 1545 Contemporary Quick Fare Production
Allows the student to develop marketable production skills in the Grill/Short Order cooking area. (Prerequisite(s): CULA 1455, CULA 1460, CULA 1465, CULA 1490) 2C/0/2/0

CULA 1555 Culinary Career Portfolio
This course exposes students to the diverse employment opportunities in the food service industry. Students develop an electronic career portfolio and refine employment securing techniques. (Prerequisite(s): CULA 1405) 1C/1/0/0

CULA 1565 Principles of Culinary Leadership
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 1455, CULA 1460, CULA 1465, CULA 1490 or instructor approval) 2C/1/1/0

CULA 1570 Applied Basic Pastry & Confection
Allows students to develop cake/pastry decorating skills to a marketable level. (Prerequisite(s): CULA 1405 or instructor approval) 2C/0/2/0

CULA 1575 Artisan Baking and Pastry
Introduces students to a variety of upscale scratch cake and pastry items and plated desserts. The course focuses on high quality ingredients, sound production and finishing techniques. (Prerequisite(s): CULA 1425 or instructor approval) 2C/0/2/0

CULA 1585 Introduction to Dining Room Service
The course covers serving techniques and dining room operations through classroom and laboratory experience in the City View Grille Dining Room. (Prerequisite(s): CULA 1405 and CULA 1415) 1C/0/1/0

CULA 1590 Cafe Dining Practicum
Students will develop skills in breakfast cookery and casual lunch fare in the student run City View Grille. (Prerequisite(s): CULA 1505, CULA 1515, CULA 1525, CULA 1545) 2C/0/2/0

CULA 1700 Culinary Externship
This course is designed to expose students to the industry in a 96 hour externship. Students reflect on their experiences through assignments and discussions. (Prerequisite(s): CULA 1445 or instructor approval) 3C/0/0/3

CULA 1705 Sustainable Foods Practicum
Students get an introduction to local and sustainable food systems through working with a local farm to create and serve a farm to table dinner. (Prerequisite(s): CULA 1590) 1C/0/1/0

CULA 2100 Menu Composition and Analysis
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 2105-2220. (Prerequisite(s): CULA 1550) 2C/0/2/0

CULA 2105 Applied Restaurant Operations 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 2105-2220. (Prerequisite(s): CULA 1550) 3C/0/3/0

CULA 2110 Applied Restaurant Operations 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 2105-2220. (Prerequisite(s): CULA 1550) 3C/0/3/0

CULA 2115 Contemporary Dining Room Service
The course explores and refines advanced aspects of front of the house restaurant operations. Students learn and practice functions of dinner service at the City View Grille. (Prerequisite(s): CULA 1590) 1C/0/1/0

CULA 2220 Sensory Evaluation & Wine Pairing
The advanced culinary student will develop a palate of flavor and aroma profiles, an understanding of food and wine pairing techniques, as well as proper service and wine-making processes. Wine varietals will be professionally sampled and evaluated based upon color, aroma, body and finish in order to cultivate an appreciation for the integral relationship between food and wine. Must be taken as a block with CULA 2105-2220. (Prerequisite(s): CULA 1545 and completion of General Education requirements) 2C/2/0/0

CULA 2225 Garde Manger
This course explores the art of cold food preparation through various mediums. Thorough explorations into cold sauces, pates, terrines, condiments and forcemeats will be highlighted in a contemporary buffet format. (Prerequisite(s): CULA 2220) 1C/0/1/0

CULA 2230 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 2235 Event Based Dining Capstone
The course explores one-off dining experiences in a number of settings. Students learn the process of catering events with a diverse set of standards, expectations and clientele. Students become familiar with all facets of events from the concept and development of the menu through set-up, service and strike of the event. (Prerequisite(s): CULA 2225) 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 Pastry Confection
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 Culinary Capstone: Garde Manger
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 1545 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 and 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

Culinary Arts - Wine

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 varietals of the world. Examine considerations for harvest of grapes, techniques for making still wines (red, white and rose), techniques for making sparkling and fortified wines, processing and aging techniques and the blending process. Explore grape varietals, regulations, history, culture and traditions: USA, France, Italy, Spain/Portugal, Germany, Australia, South America and South Africa. (Prerequisite(s): Must be 21 years or older. Must be taken concurrently with CULA 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. (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 Food and Wine
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

Digital Graphics and Interactive Multimedia

DGIM 1400 Introduction to Computer Graphics
Introduction to Computer Graphics will introduce students to a wide variety of software applications used in the Visualization Technology area as well as cover the basic theories and practices regarding still image graphics, file formats, animation and color theory. In addition, the importance of an online portfolio will be discussed and a basic portfolio will be constructed. 4C/4/0/0

DGIM 1443 Graphical Web Design
This course explores the basics of Adobe 1. Topics include file organization, the Adobe Muse interface, site control, images, text, page linking, navigation, creating and publishing web pages. It is recommended that students taking this course have taken DGIM 1443 or its equivalent. 2C/2/0/0

DGIM 1444 Graphical Web Design 2
This course explores the more advanced topics of Adobe Muse including frames, rollovers, cascading style sheets, HTML, forms, DHTML, animation, sounds, templates and libraries and troubleshooting. It is recommended that student taking this course have taken DGIM 1443 or its equivalent. 2C/2/0/0

DGIM 1448 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 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 as a Presentation Media. Topics include image composition, retouching, composting, 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 as a Presentation Media or equivalent knowledge) 2C/2/0/0

DGIM 1490 3D Animation Fundamentals
This course introduces students to the Blender 3D Animation Tool. Topics will include navigating the Blender interface, object creation and editing, Blender modifiers, material & texture application, lighting and camera setup, multi-resolution sculpting, UV texture mapping, particle tools, shape keys and render setups. Students will be expected to develop an individual animation project using techniques from the lessons learned. 4C/4/0/0

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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). 4C/4/0/0

DGIM 2520 3D Character Animation
This course continues to explore the features of the Blender 3D Animation Tool. Topics will include rigging and skinning fundamentals, inverse kinematic modeling, 3D sculpting tools, character modeling, re-topology body parts, material application and character walk cycle creation. Students will be expected to develop an individual animation project using techniques from the lessons learned. (Prerequisite(s): DGIM 1490 3D Animation Fundamentals) 4C/4/0/0

DGIM 2521 2D Web Animation
This course introduces students to the fundamentals of digital animation with specific focus on two dimensional software animation tools. Topics will include the 12 basic principles of animation as applied to both hand drawn and computer animation, support for web animation on multiple platforms with emphasis on mobile devices, layer editing, audio and video support as well as integration of traditional still image graphic tools into the animation process. Software used in this class will include but not limited to Processing, Adobe Edge and Stencyl, as well as other HTML5 compliant web animation software tools. This is a hands-on course where the students will develop a final project using the knowledge gained in class. 2C/2/0/0

DGIM 2530 Web Based Game Design 1
This course introduces standard techniques and strategies used in traditional two dimensional, web-based video games. Browser-based games will be constructed using HTML 5, Javascript and the Tumult Hype web development environment. Projects will include trivia games, pattern matching games, maze games, logic games and simple casino simulations. Students will develop multiple mini-games for an online, web-based portfolio. (Prerequisite or Co-Requisite: DGIM 2521 2D Web Animation or Instructor Permission) 4C/4/0/0

DGIM 2531 Web Based Game Design 2
This course continues to develop traditional two dimensional web-based video games using Javascript, HTML5 and Tumult Hype. Game projects will include spritesheet animations, side scroller, dungeon crawlers, moving targets, space themed invasions and various pong-style clones. Students will develop multiple mini-games for an online, web-based portfolio. (Prerequisite: DGIM 2530 Web Based Game Design 1) 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 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 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 focuses on digital video editing using the Premiere Pro video editing software. Techniques involving multitrack video editing and digital audio integration will be explored, along with the creation of various title effects, fade/transition effects and other standard industry practices. In addition, the topics of video filetype and codecs, demo reel creation, use of other software tools for footage creation and basic video capture techniques will be explored. 2C/2/0/0

DGIM 2588 Digital Video 2
This course focuses on digital video editing using the Final Cut Pro video editing software. Many of the same general techniques covered in DGIM 2587 will be covered but done from the perspective of the Final Cut Pro interface. In addition, video distribution via the web, live video streaming techniques and video integration into the web using the HTML5 standards 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 credits 2–8

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 credits 1–6

DGIM 2704 3D Animation Capstone
This course is meant to integrate and expand upon the various animation, video editing and image manipulation skills developed in previous classes in this area. In addition, students are expected to explore new and emerging technologies in the area of animation as part of preparing for future changes in this rapidly changing area. Students will be expected to develop both individual and group animation projects for use in their Internet based portfolio. (Prerequisite(s): DGIM 1490 3D Animation Fundamentals) 4C/4/0/0
### Economics

**ECON 1710 Introduction to the American Economy**  
This introductory course provides an overview of the United States’ economic system including a broad range of microeconomics and macroeconomics. Topics covered include an overview of the history of the American economic experience. The United States’ economy is broadly based on a free market economic model. In addition to looking at the free market model, the rationale for government intervention in our economy is also examined. This course explores the role of government in our modern economy including topics in public choice, fiscal policy, and monetary policy. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 8) 3C/3/0/0

**ECON 1720 Macroeconomics**  
Macroeconomics is a social science that studies how our society can achieve economic goals of full employment, price stability, economic growth, and stable balance of trade. International trade and the concept of comparative advantage and restrictive trade policies are explored. From this inquiry, students will be able to demonstrate the effects of trade on a country’s economic performance. In addition, economic data is used to measure growth and to compare an economy’s growth rates relative to other international growth rates. The United States’ fiscal and monetary policies are defined and examined in terms of the effects those policies have on economic performance. Fiscal and monetary policy is also examined in relation to the business cycle. In addition an inquiry is made of the importance and interrelated nature of social institutions in achieving economic goals. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 8) 3C/3/0/0

**ECON 1730 Microeconomics**  
Microeconomics is a social science that studies how the society can maximize its economic welfare by the efficient use of resource and product markets. In order to facilitate this study, microeconomics has developed tools such as market models that simplify the complex real world situations. These tools are abstractions of reality from which basic economic principles can be derived. These principles act as a guide to our private and society’s public choices. Fundamental issues covered are supply and demand, elasticity, competitive and non-competitive markets. The text has numerous topical examples such as free trade, interest groups, agricultural policy, advertising, health care and more. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 8) 3C/3/0/0

**ECON 1790 Special Topics in Economics**  
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 5) Variable credits 1-6

### Electrical Technology

**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/2/2/0

**ELTN 1532 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 (PLCs) 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. 3C/2/3/0

**ELTN 1540 Low Voltage Systems and Job Site Safety**  
This course will cover the basic concepts associated with fire and 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 2522 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) 5C/2/3/0

### Education

**EDUC 1410 Introduction to Teaching STEM**  
This course will introduce students to the craft of teaching in the areas of science, technology, engineering and math. Students will identify their teaching strengths, develop skills for interpersonal communication, and practice self-critique. Additionally, students will utilize best practice techniques such as active learning, inquiry-based labs and coaching methods to facilitate student engagement and achievement. Topics such as course development and assessment will be addressed through the creation of mini-lessons or tutorials. Students will participate in a field experience program where they will assist a mentor with supplemental educational techniques such as after-school programs or tutoring. 3C/2/1/0
ELTC 2532 Industrial Wiring Methods and Service Entrance
This course covers the design, material usage and safe installation practices on industrial jobsite. Requirements and safe installation of service entrance equipment and conductors are also covered. (Prerequisite(s): ELTN 2410, ELTN 2420, ELTN 2430, ELTN 2440) 5C/2/3/0

ELTC 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

ELTC 2550 Introduction to Renewable Energy
This course presents a discussion of renewable energy systems and resources such as solar, wind, hydro and geothermal. Topics will include photovoltaic cells, solar panels and arrays. In addition, students will learn about generation and effectiveness of various renewable energy systems. 2C/2/0/0

Electromechanical Systems

EMEC 1510 AC/DC Fundamentals
This course is an introduction to electrical power and relay control systems found in modern industrial machinery and automation. The learning is based on practical online instruction and classroom hands-on tasks involving electronically operated devices and associated peripheral equipment. Topics include electricity basics, parts of an electrical circuit, use of a multimeter, understanding transformer, and electrical relay control. 3C/0/3/0

EMEC 1520 Electrical Motors
This course is an introduction to electrical motors and generators found in modern industrial machinery and automation. The learning is based on practical online instruction and classroom hands-on tasks involving electronically operated devices and associated peripheral equipment. Topics focus on the various types of AC and DC motors. 3C/0/3/0

EMEC 1530 Motor Controls
This course in an introduction to electrical motor controls found in modern industrial machinery and automation. The learning is based on practical online instruction and classroom hands-on tasks involving electronically operated devices and associated peripheral equipment. Topics include motor protection, braking, running on reduced power, and sensor controls. 4C/2/2/0

EMEC 1540 Motor Drives
This course is an introduction to electronic motor drives found in modern industrial machinery and automation. The learning is based on practical online instruction and classroom hands-on tasks involving electronically operated devices and associated peripheral equipment. Topics include variable frequency drives, inverters, position and velocity controls. 4C/2/2/0

EMEC 2610 Fluid System Fundamentals – Pneumatics
This course is an introduction to pneumatic power systems found in modern industrial machinery and automation. The learning is based on practical online instruction and classroom hands-on tasks involving electronically operated devices and associated peripheral equipment. Topics include pneumatic systems, pipelines, control valve, control assemblies, actuators, maintenance procedures, test equipment, and proper safety procedures. Online learning computer simulation and 3D software will be used throughout the course as well as laboratory pneumatic equipment. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval) 4C/2/2/0

EMEC 2620 Mechanical Fundamentals 1
This course is an introduction to mechanical drive systems. Topics include the transfer of mechanical power through chain/gear/belt drive systems, alignment of drives to loads, and drive component lubrication. The class material will be delivered through online instruction and hands-on labs focusing on various types of drive systems. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval) 4C/2/2/0

EMEC 2625 Mechanical Fundamentals 2
This course continues the work in Mechanical Fundamentals 1 by providing a deeper understanding of mechanical drive systems and introducing the student to various pump systems. The class material will be delivered through online instruction and hands-on labs focusing on various types of bearings, gaskets, drives, and pumps. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval) 4C/2/2/0

EMEC 2710 Fundamentals of Instrumentation
This course will cover the essential elements of a process control system. The learning is based on practical online instruction and classroom hands-on tasks involving circuit wiring, instrument calibration, and documentation. It will cover common types of electrical and pneumatic signals used for data collection while exploring devices used to measure flow rate, pressure, temperature, level and analytical control. This course will compare fundamental control concepts such as on/off and PID. It will explain how control concepts are used in the various control loops of feedback, cascade, ratio and feed-forward. Troubleshooting exercises and safety procedures will be implemented throughout the course. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval) 3C/1/2/0

EMEC 2720 Automatic Process Control
This course will cover the essential elements of a process control system. The learning is based on practical online instruction and classroom hands-on tasks involving automatic process controllers and associated instrumentation equipment. It will cover common types of electrical and pneumatic signals used for data collection and control while exploring devices used to measure flow, pressure, temperature, and level. This course will cover fundamental control concepts such as on/off and PID. It will explain how control concepts are used in the various control loops of feedback, cascade, ratio, and feed forward. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval and EMEC 2710 Fundamentals of Instrumentation) 4C/2/2/0

EMEC 2740 Electromechanical Troubleshooting and Maintenance
This course introduces students to basic troubleshooting and maintenance techniques used in the industry. Topics include understanding the difference between troubleshooting and maintenance, common issues with basic electromechanical equipment, professional communication, team management, and conflict resolution within a team environment. The curriculum is divided between online delivery and lab experience. 3C/2/1/0

EMEC 2751 Automated Process Controls
This course will cover the essential elements of a process control system. Topics include closed and open loop processes, variable measurement, instrument calibration, and various loop controllers. The learning is based on practical online instruction and hands-on tasks involving level, flow, pressure, and temperature controlled process loops. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS) 3C/0/3/0 4C/2/2/0
EMEC 2760 Programming for Robotic Manufacturing
This course focuses on programming robotics that specialize in manufacturing settings. Topics include robotic safety, homing, programming for automatic and manual operations, work cell coordination, and robotic quality control. The learning is based on practical online instruction and hands-on programming involving an expanding robotic platform. 4C/2/2/0

EMEC 2770 Advanced PLC Programming
This course builds a deep understanding of a Programmable Logic Controller (PLC), a specialized computing system used to automate various industrial settings. Topics include digital and analog input and output modules, internal registers and tables, function block usage, networking, and how to use a PLC to aid in troubleshooting. The learning is based on practical online instruction and hands-on tasks that focus on interacting with PLCs. (Prerequisite(s): Journeyman electrician or ELTN/CNEL diploma/AAS or instructor approval) 4C/2/2/0

Engineering (Pre)

ENGR 1706 Principles of Engineering
Principles of Engineering is a broad-based survey course designed to help students understand the field of engineering and engineering technology and the career pathways. Students are introduced to engineering fundamentals and the knowledge and skills necessary for success as professional engineers and engineering technologies. This course is required for students enrolled in the Science Technician degree program. Engineering students should register for ENGR 1707. 2C/1/1/0

ENGR 1707 Introduction to Engineering
Introduction to Engineering is a broad-based course designed to help students understand the field of engineering and engineering technology and the career pathways. Students are introduced to engineering fundamentals and the knowledge and skills necessary for success as professional engineers and engineering technologies. Topics include an overview of the engineering profession, engineering design, manufacturing, use of computer packages, and technical communication. Engineering graphics and solid modeling will be presented including the use of a solid modeling software. This course is required for students enrolled in the Pre-Engineering AS degree program. 3C/2/1/0

ENGR 1709 Digital Electronics
Digital Electronics is the study of electronic circuits that are used to process and control digital signals. Digital Electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras, high definition televisions, etc. In this course, students will be exposed to combinational and sequential logic design, microcontrollers, soldering. It is a project based course requiring use of problem solving, and teamwork, and communication skills to analyze, design, and build digital electronic circuits. 3C/0/2/0

ENGR 1712 Computer Integrated Manufacturing
Computer Integrated Manufacturing (CIM) describes the process of automation of a manufacturing plant with all processes functioning under computer control. In this course, students will explore how things are made, the processes that go into making different types of products, how automation changed manufacturing, and automation processes and basic programming for control systems and robots. (Prerequisite(s): Completion of or concurrent enrollment in ENGR 1706 Principles of Engineering) 2C/1/1/0

ENGR 1714 Engineering CAD
This course introduces students to solid modeling software used in engineering for design and analysis of parts. It includes creating models and drawings for basic extrusions, revolve features, and cuts as well as more complex blends, sweeps and assemblies. 2C/1/1/0

ENGR 1717 Circuit Analysis
This course is meant to develop circuit analysis skills in DC and AC circuits. It includes circuit laws and theorems, mesh and node analysis, natural and step response of RL, RC, and RLC circuits. (Prerequisite(s): PHYS 2710 and MATH 2760 or instructor approval) 4C/3/0/0

ENGR 1790 Special Topics in Engineering
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. Variable credits 1-6

ENGR 2700 Introduction to Problem Solving & Engineering Design
This class introduces the student to a multifaceted engineering problem solving and design paradigm. In this course, students will learn a systematic engineering approach to solving a problem, engineering design process, and technical presentation and analysis of data. Students will be introduced to mathematical, spreadsheet and solid modeling software for use in engineering problem solving. Open-ended activities and design projects will provide opportunities for students to apply common elements of problem solving in the solution of engineering problems in the context of a structured problem solving and design process. (Prerequisite(s): ENGR 1706) 2C/1/1/0

ENGR 2705 Statics
Statics is the first area of study in the science of mechanics. Statics deals with the study of rigid bodies at rest and the forces acting on them. Statics is the foundational course for many fields in engineering including civil, mechanical, biomedical, and structural. In this course, students will use Newton’s three laws of motion to solve equilibrium of particles and rigid bodies on both 2D and 3D; determine centroids and moments of inertia; solve for internal and external forces in trusses, beams, and frames; and develop shear and moment diagrams. (Prerequisite(s): PHYS 2700 or instructor approval) 3C/3/0/0

ENGR 2710 Dynamics
This course continues the development of fundamental engineering concepts. Topics will include kinematics and kinetics of particles, systems of particles and rigid bodies, work-energy, linear and angular impulse momentum. (Prerequisite(s): Grade of “C” or better in ENGR 2705) 3C/3/0/0

ENGR 2712 Deformable Body Mechanics
This course focuses on the application of the principles of mechanics of deformable bodies including the underlying concepts of stress and strain. The course further examines the relationships among loads on deformable bodies, the stresses and strains within those bodies and the deformations and stability of those bodies. Topics include: uniaxial loading and deformation, stress and strain at a point, combined stress states, Mohr’s circle, internal forces in beams, material behavior, and torsion of circular shafts. (Prerequisite(s): ENGR 2705) 3C/3/0/0

ENGR 2715 Thermodynamics
This course covers basic thermal energy relationships, processes, and cycles, First and Second Law of Thermodynamics, entropy, and availability. This course is intended for engineering majors and includes open-ended design. (Prerequisite(s): Grade of “C” or better in CHEM 1711 and PHYS 2700) 3C/3/0/0

English

ENGL 0921 Fundamentals of Writing 1
This course is designed for beginning writers who need additional foundational writing instruction and experience. It provides sequenced instruction in grammar usage, sentence construction, paragraph unity and coherence, and the writing process. Students will study models of effective sentences and paragraphs and then generate their own work. Additionally, this course will focus on building vocabulary for fluency and precision in communication. Completion of this course with a grade of “C” or better is required to continue on to ENGL 0922. (Prerequisite(s): READ 0721, department approval or appropriate assessment score) 4C/4/0/0
ENGL 0922 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 0921 and READ 0721 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 0922 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: Goal 1) 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 1725 Introduction to Fiction Writing
This writing intensive course will explore and analyze fictional writing elements (dialogue, setting, character, cause and effect, theme, conflict, resolution etc.) through critical reading of short stories. Learners will discuss and critique literature and their own writing using workshop sessions to explore writing goals and hone creative and critical writing analysis techniques. Learners will develop an understanding of fiction by applying these techniques to our own writing and in discussion of peers’ work. In this course, learners will express a new understanding of fiction writing techniques by applying informed and critical responses to classic and contemporary fictional pieces. Learners will examine the writing process by practicing writing exercises, creating short fiction pieces, examining writing elements through critical reading responses and exams, and by investigating opportunities and tendencies in writing through revision. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (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. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (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 these 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. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (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 1. 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 1. (Prerequisite(s): Grade of “C” or better in ENGL 1711) (MnTC: Goals 6 & 7) 3C/3/0/0

ENGL 2725 Survey of British Literature
This college literature course, intended for all students, will introduce British literature. Beginning with the Old English and spanning to the Modernists of the early twentieth century, students will read, discuss, and analyze a variety of texts such as poems, essays, letters, and selections from novels. Typical works and authors may include Beowulf, Chaucer, Milton, Shakespeare, and Swift. The course will consider what these works reveal about British society as well as what they suggest about the human condition. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (MnTC: Goal 6) 3C/3/0/0

ENGL 2730 Contemporary American Novel
A study of the American novel from the late nineteenth century to the present. Beginning with realistic novels that reflected vast social changes at the turn of the century, this course seeks to discover the unique boundaries and potential of the contemporary 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, exploring how issues like feminism, civil rights, workers' rights and the rise of youth culture are reflected in American literature. This course ends with the contemporary novels of the twenty-first century. (Prerequisite(s): Grade of “C” or better) (MnTC: Goal 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: Goal 6) 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 2755 LGBTQ Writers
This college literature course, intended for all students, will study works written by members of the LGBTQ community and exploring their experience. We will analyze course readings with a special focus on the distinct concerns, perspectives, and challenges of lesbian, gay, bi-sexual, transgender and queer writers. We will view the works both historically, with an emphasis on the issues and challenges of LGBTQ writers within their own time frame, and from a contemporary perspective. The class will also explore the literature of various races and ethnicities within the family of LGBTQ writers. (Prerequisite: ENGL 1711 Composition 1 with a grade of C or better) (MnTC: Goals 6 and 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: Goal 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. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (MnTC: Goal 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 twenty-first 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: Goal 6) 3C/3/0/0

ENGL 2776 Women Writers
This college literature course, intended for all students, will explore literature written in English by women. We will analyze course readings with a special focus on the distinct concerns, perspectives, and challenges of women writers. In addition, we will examine the social and cultural contexts in which these works were written, developing our understanding that literature can reflect, critique, and even shape its cultural moment. (Prerequisite(s): ENGL 1711 Composition 1 with a grade of “C” or better) (MnTC: Goals 6 & 7) 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: Goal 6) 3C/3/0/0

ENGL 2790 Special Topics in English
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 1) Variable credits 1-6

English for Academic Purposes (EAPP)

EAPP 0760 High Intermediate Reading & Vocabulary
This course introduces English learners to academic reading skills at the high intermediate level. Students identify main ideas and details, use pre-reading strategies, and infer meaning in non-fiction and short stories. Students also build their vocabulary through the study of word parts, the academic word list, and dictionary skills. This is a required course. (Prerequisite(s): Appropriate assessment score) 5C/5/0/0

EAPP 0770 High Intermediate Writing and Grammar
This course introduces English learners to academic writing at the high intermediate level. Students will improve their ability to write clear, correct sentences and well-organized paragraphs. They will study parts of speech, sentence structure, and basic verb tenses. They will also become familiar with the writing process and using a computer to create, save and edit their work. This is a required course. (Prerequisite(s): Appropriate assessment score) 5C/5/0/0

EAPP 0780 High Intermediate Speaking and Listening
This course introduces English language learners to academic speaking and listening skills at the high intermediate level. Students will deliver presentations, participate in group discussions, and take lecture notes. In addition, students will improve their pronunciation, vocabulary, and grammar and apply their language skills to learn about campus resources and engage in the college community. Use of the multimedia language laboratory is part of this course. This is a required course. (Prerequisite(s): Appropriate assessment score) 5C/5/0/0

EAPP 0860 Advanced Reading & Vocabulary
This course develops academic reading and vocabulary skills at the advanced level. Students analyze main ideas and details, use a variety of reading strategies, and summarize passages from authentic non-fiction texts and novels. Students further develop their academic vocabulary through the study of the academic word list, context clues, and dictionary skills. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of EAPP 0760 with a grade of “C” or better) 5C/5/0/0
EAPP 0870 Advanced Writing & Grammar
This course develops academic writing skills at the advanced level. Students will improve their ability to write clear, correct sentences and well-organized paragraphs and essays. They will also study advanced sentence and grammar structures and apply this grammar knowledge in a variety of writing situations. This course 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 EAPP 0770 with a “C” or better) 5C/5/0/0

EAPP 0880 Advanced Speaking & Listening
This course develops advanced speaking and listening skills for English learners. Students will summarize lectures, lead small group discussions, and deliver presentations based on simple research. Students will also learn appropriate communication strategies for the U.S. college classroom and explore career and major programs. 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 EAPP 0780 with a grade of “C” or better) 5C/5/0/0

EAPP 0900 Academic Reading & Writing
In this course, English language learners will develop analytical reading and writing skills. They will read, analyze, and respond to a variety of texts and build academic vocabulary. Students will also study advanced sentence, grammar and rhetorical structures and apply this knowledge to produce clear and effective essays. This is a required course. (Prerequisite(s): Appropriate assessment score or completion of EAPP 0860 & EAPP 0870 with a “C” or better) 5C/5/0/0

EAPP 1400 English Pronunciation for Academic and Professional Purposes
This course is designed for English learners who want to improve their English pronunciation. Students will apply rules for sound production, word stress, sentence stress, intonation, rhythm, and speech patterns through modeling, group work, role plays, and presentations. Students develop self-monitoring skills to apply pronunciation skills to academic and professional settings in their major or career area. Students will soften (not eliminate) their accent and gain more confidence when they speak. Students at any level are accepted, no prerequisites are required. 2C/2/0/0

EAPP 1490 Special Topics in English for Speakers of Other Languages
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. Variable credits 1-6

Geographical Information Science

GISC 1760 Introduction to GIS
This course introduces students to fundamental and applied concepts in geographic information systems. Students will become intimately familiar with the use of rasters and vectors in a digital computer environment and learn how to use specialized GIS software (ESRI’s ArcGIS suite of products) to import, display, create, manipulate, and analyze digital spatial data. The ultimate goal of this course is to teach students how to use the GIS software to create maps, perform spatial analysis, and produce maps for a variety of applications. 4C/4/0/0

GISC 1765 Cartography
This course introduces students to the art and science of making maps. Students will examine concepts related to scale, map projections, shape, proportion, color, human cognition of space, and the spatial arrangement of information in maps. The ultimate goal of this course is to teach students how to effectively convey a message with a map that contains subjectively selected features representing a simplified version of the outside world. 3C/3/0/0

GISC 1770 Spatial Thinking
This course teaches students how to process and analyze data or information from a spatial perspective. Most people recognize space in terms of fixed locations (e.g., somebody lives at 3432 Avery Drive in Lubbock, TX), but few people naturally consider the spatial distribution of fixed and/or dynamic features or potential dynamic interactions within and/or between these features over time. The ultimate goal of this course is to teach students how to think spatially at different time scales and explore spatial terms such as proximity, shape, density, position, gradient, and others. 3C/3/0/0

GISC 1775 Introduction to Remote Sensing
This course introduces students to fundamental and applied concepts in remote sensing. Students will be exposed to a detailed review of the electromagnetic spectrum, atmospheric windows, passive and active sensors, digital image processing techniques (including geometric and radiometric corrections), and image classification methods, among other topics. The ultimate goal of this course is to teach students how to apply conceptual skills acquired in the spatial thinking course while developing a good understanding of remote sensing theory and the limitations and strengths of remote sensing. 4C/4/0/0

GISC 1780 Spatial Analysis
This course provides intermediate and advanced GIS students with knowledge of spatial analysis techniques used to model spatial relationships between features in a GIS environment. Students will learn how to use ArcGIS software to analyze digital spatial data and perform spatial analysis operations such as spatial operations, spatial relationships, spatial modeling, and spatial decision making. 3C/3/0/0

GISC 1785 Introduction to Remote Sensing
This course introduces students to fundamental and applied concepts in remote sensing. Students will be exposed to a detailed review of the electromagnetic spectrum, atmospheric windows, passive and active sensors, digital image processing techniques (including geometric and radiometric corrections), and image classification methods, among other topics. The ultimate goal of this course is to teach students to use remote sensing data to analyze spatial patterns and relationships in the environment and to apply spatial analysis techniques to solve real-world problems. 3C/3/0/0

GISC 2720 Web-Based GIS
This course introduces intermediate and advanced GIS students to concepts and techniques for integrating GIS with the Internet. Topics explored in the class will include various protocols, approaches, hardware, software, and programming languages utilized to serve digital spatial data via the Internet. Practical experience with Google Earth, KIMUKMZ, Google Map APIs, Javascript APIs, Flex APIs, and ArcGIS Server will be used to teach and reinforce concepts. 3C/3/0/0

GISC 2725 Object-Based Image Analysis
This course introduces intermediate and advanced GIS students to the complexities of acquiring, processing, and extracting information from remotely sensed data with a high spatial resolution. Students will become familiar with applying object-based image analysis techniques on a data stack generated from LiDAR returns, QuickBird imagery, IKONOS imagery, aerial, and/or corresponding derivative data (e.g., vegetation indices, wetness indices, erosion indices, etc.). 3C/3/0/0

GISC 2730 Programming and Scripting in GIS
This course provides intermediate and advanced GIS students an introduction to the programming interface and function in ArcGIS. Fundamental concepts of computer programming are introduced from a geospatial processing perspective via the use of Python. General programming concepts will focus on object-oriented programming and scripting. Students will acquire basic programming skills and techniques necessary to search, explore, revise, manipulate, analyze, and model spatial data beyond the standard options available in the standard ArcGIS interface and extensions. 4C/4/0/0
Geography

GEOG 1700 Physical Geography
This course introduces students to natural landscapes and the geography of the physical environment. Topics include: volcanoes, earthquakes, tornadoes, hurricanes, landslides, glaciers, soil, the water cycle, etc. The course covers how these processes work, as well as how these systems and humans impact each other. So this course also covers environmental concerns such as destruction of environments, desertification, air pollution, climate change, etc. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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: cultural geography (patterns of language and religion, folk customs, globalization, popular culture), political geography (formation of countries, conflict over land), populations (growth, distributions, migrations, characteristics), global economic activity, and development. Case studies from many parts of the world will be analyzed and key geographic concepts will be reviewed. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 8) 3C/3/0/0

GEOG 1740 World Geography
This course covers the geographic study of the world discussing U.S. and Canada, Latin America, Africa, Middle East, Europe, and various regions in Asia. Topics covered include: cultures and characteristics of regions, development, unique features around the world, movements of people around the world, the natural landscapes, economic influences, and conflict between countries. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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), physical landscapes (glacial landforms, soils, and waterways), land use (agriculture, manufacturing, urbanization, etc.), geopolitical issues, and economics. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 10) 3C/3/0/0

GEOG 1790 Special Topics in Geography
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 5) Variable credits 1-6

Global Studies

GLOS 1710 Introduction to Global Studies
This interdisciplinary course introduces students to the concept of global studies and the processes of globalization. Students will examine the economic, political, cultural, and environmental aspects of globalization, with an emphasis on social change and conflict. Students will also discuss the effects of global cooperation, conflict, and interdependence on efforts to manage and mitigate global problems, both today and in the future. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score. (MnTC Goals: 5 & 8) 3C/3/0/0

Global Trade

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 lab credits 1-3

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 lab credits 1-3

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

Health

HLTH 1300 Behaviors for Success - Respecting Diversity
This course focuses on the exploration of healthcare careers and the requirements needed by health care personnel to effectively work in a variety of health care settings. Types of health care facilities and systems, applying for employment, accountability and responsibility, standards of dress, workplace behavior, approaches needed to assist individuals, expectations of teams and team members, common healthcare facility policies and requirements are explored. This course also provides a framework for dealing with diverse clients/individuals and staff. Included are belief systems, cultural practices, respect and sensitivity to cultural issues, gender issues and sexuality issues. Awareness and use of effective strategies to appropriately deal with client and staff diversity are emphasized.
HLTH 1310 Communication in Healthcare
This course emphasizes the importance of effective communication between and among healthcare employees and their clients/individuals. Included are verbal and non-verbal communication, listening skills, interpersonal communication, team communication, documentation and reporting, and the use of electronic communication devices in health care facilities. Focus is on the development of effective communication skills to support quality client/individual care.

HLTH 1320 Safety Precautions and Awareness of Client Needs
This course focuses on healthcare safety and standard precautions required of healthcare facilities as well as personal safety standards and requirements to work in healthcare settings. This course also presents challenges and issues related to awareness and sensitivity needed to understand the healthcare needs of clients/individuals.

HLTH 1410 Medical Terminology
Students recognize and build medical terms after learning the meaning of their component parts. A course in the lab may be utilized for 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 in massage therapy, personal training, aesthetics 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 or Sport and Exercise Sciences major) 2C/1/1/0

HLTH 1420 Anatomy & Physiology
This course assists the student to acquire basic knowledge of body structure and function. Text and materials support a one-semester anatomy and physiology course. Emphasis is on the healthy body. The content in this course includes medical terms that prepare the student to understand common diseases in the clinical setting. Disorders, physiologic responses to environmental factors, and other topics of general interest are explored. Learning outcomes are tied to specific assessments found at the end of each chapter. (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 musculoskeletal, 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, Sport and Exercise Sciences or Yoga program) 4C/2/2/0

HLTH 1422 Health & 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. (Prerequisite(s): HLTH 1420 or HLTH 1421. Physical ability to palpate the human body and willingness to view selected Human Cadaver videos are recommended.) 3C/1/2/0

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 1454 Yoga Postures/Asanas
A yoga practice can increase mental clarity, focus and support vitality in daily life. This course presents yoga principles and postures, called asanas, which develop balance, strength and flexibility. Students will learn the foundational yoga postures in each of the main categories of postures including: seated postures, standing postures, inversions, arm balances, hip openers and twists. Students will study an overview of the health benefits gained through yoga practice. Discuss health limitations with the instructor. (Prerequisite(s): Must have at least six months regular yoga practice experience prior to attending this training) 3C/2/1/0

HLTH 1458 Relaxation and Meditation
Learn relaxation techniques and study the many benefits of meditation. Students learn various mindfulness practices including guided relaxation, gentle yoga, breathing techniques, walking meditation, and sitting meditation. Students will develop a consistent routine and learn techniques to help cope with stress and cultivate a deeper awareness of themselves and how they relate to the world. 3C/2/1/0

HLTH 1459 Yoga Asanas/Teaching Methodology
Deepen your understanding of the yoga asanas (postures). Students will study the yoga postures in each of the main categories of postures, seated postures, standing postures, inversions, arm balances, hip openers and twists. Refine your understanding and skills of alignment within asanas. Teaching methodology includes alignment, sequencing, adjustments and effective ways to guide students in a yoga practice. Discuss the business aspects of teaching yoga. (Prerequisite(s): HLTH 1454. Discuss health limitations with the instructor.) 3C/2/1/0

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. 4C/3/1/0

HLTH 1470 Wellness through the Lifespan
Provides the student with concepts of wellness and the mind/body connection throughout the human lifespan. This course focuses on the promotion of wellness, stress reduction, and integrative healthcare services involved in the progressive stages of physical, emotional, intellectual and social development throughout the lifespan. 4C/3/1/0

HLTH 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 recommended) 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 1541 Yoga History/Philosophy**
This course will provide a solid foundation in the historical and philosophical concepts of yoga. Study historical texts such as the Bhagavad Gita and Patanjali’s Yoga Sutras that provide lessons and offer clear steps on the path of yoga. Learn philosophical concepts of various schools of yoga including: Tantra, Ayurveda, chakras, and more. 3C/2/1/0

**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 1570 Trained Medication Aide**
This program provides an overview of the requirements concerning medications and their administration. Other topics include legal criteria, medical abbreviations, medical math and basic dosage calculations, use of the Physician’s Desk Reference (PDR) along with current medication handbooks. A basic overview of body systems and drug classifications are included. Administration of medications via oral, eye, ear, rectal, topical and inhalant routes will also be covered. Attendance of all classes is mandatory; any absence will may result in repeating the course. Students must attain 90% on all examinations to continue in the class. 2C/1/1/0

**HLTH 1575 EKG & Telemetry**
This comprehensive 6 credit course will prepare students to be an EKG Technician and take the Certified EKG Technician (CET) exam. An EKG Technician attaches electrodes to the patient’s body which then send a signal to a machine displaying the activity in a recognized pattern. The technician will recognize abnormalities in EKG tracings and report them to a physician or other authorized healthcare providers for interpretation. Students will study: cardiac anatomy and physiology, EKG equipment (attaching to patients, proper safety and operation, recognize artifacts and resolve problems), how to recognize tracings that deviate from normal and prioritize reporting of such deviations, heart rhythms and waveforms, obtain basic vitals, HIP AA compliance, use of Holter monitors, introduction to stress tests and 12-lead EKGs, and more. (Pre-requisite(s): HLTH 1432) 6C/4/2/0

**HLTH 1580 Medical Office Skills for the Patient Care Technician**
The Medical Office Skills Technician course provides the student with the administrative skills necessary for being a Patient Care Technician. The course provides the student with the administrative skills necessary for being a Patient Care Technician. The course consists of topics such as electronic health records, documentation, patient records, insurance, and medical coding as they apply to inpatient and outpatient settings. (Pre-requisite(s): HLTH 1410) 3C/3/0/0

**HLTH 1585 Job Readiness Certification Exam Preparation**
The Job Readiness/Certification Exam Preparation course prepares students for their career as a Patient Care Technician and for the certification exam. Students will develop cover letters, resumes, and interview skills. Study skills for the certification exam exam review will also be covered. A SAMPLE certification exam will be administered in this course as well. This course is for Patient Care Technician students in their last semester of coursework. 2C/2/0/0

**HLTH 1600 Foundations of Fitness**
The purpose of the course is to seek improvement of the student’s knowledge and understanding about the components of physical fitness, and how those components contribute to lifelong health and well-being. This course is designed to provide knowledge for the individual to assess, motivate, and maintain a lifestyle of wellness. 2C/0/2/0

**HLTH 1610 Sport and Exercise Coaching**
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 Sport and exercise Sciences program.) 5C/3/2/0

**HLTH 1620 Advanced Concepts in Training**
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): HLTH 1610 with a grade of “C” or better) 5C/3/2/0

**HLTH 1630 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. VO2 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. (Prerequisite(s): HLTH 1610 with a grade of “C” or better) 3C/1/2/0

**HLTH 1690 Sport and Exercise Sciences 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) 5C/0/5/0

**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 1421) 4C/3/1/0

**Health Unit Coordinator**

**HLUC 1410 Diagnostic & Therapeutic Procedures**
Designed to acquaint the student with patient’s medical record (paper or electronic) and doctor’s orders for treatments, medications, diagnostic tests and medical procedures. The information presented provides knowledge essential for the processing of physician orders. (Prerequisite(s): ENGL 0922, READ 0722 or appropriate assessment score) 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 recent changes with electronic medical record and computerized physician order entry, ethical and legal standards, customer relations, telephone and communication techniques, problem solving, medical terminology, basic human structure, diseases and disorders. (Prerequisite(s): ENGL 0922, READ 0722 or appropriate assessment score) 4C/4/0/0

HLUC 1510 Processing Physicians’ Orders 1
This hybrid course is 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. Processing of physicians’ orders will be in a computer lab setting. 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
This hybrid course is designed to give the students hands-on applications in the processing of physicians’ orders in a computer lab setting. 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/3/0/0

HLUC 2491 Health Unit Coordinator Internship
The student will complete 96 hours of experience at the internship facility. Student must receive instructor recommendation to proceed to internship. Candidates for internship must have proven themselves to be reliable in attendance, professional in behavior, participate in class, and safe in performing Health Unit Coordinator tasks. Students will be required to submit a Background Study conducted by the Department of Human Services. An individual who is disqualified as a result of the background study will not be permitted to participate in a clinical internship. Students will be required to submit to the instructor a current immunization record. Students will agree to and sign a Student Intern Agreement and Pledge of Confidentiality forms. (Prerequisite(s): Successful completion of all HLUC courses: HLUC 1410; HLUC 1420; HLUC 1510; HLUC 1511 with a grade of “C” or better to be eligible for participation in internship) 3C/0/0/3

History

HIST 1730 Contemporary World History
This course surveys Contemporary World History, from the end of World War II to the present with a focus on Europe, Asia, Africa, Latin America and the Middle East. Significant forces, ideas, events and people that have influenced the world since 1945 are studied. 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. (Prerequisite(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 1877
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. (Prerequisite(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 1877
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. (Prerequisite(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 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. (Prerequisite(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. Special focus is given to global factors that allowed the West to exercise significant influence over the development of Africa, Asia and the Americas. (Prerequisite(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. (Prerequisite(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. (Prerequisite(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 1773 African American History
This course explores the history of African American men and women in the United States from their involuntary arrival in the early 17th century to the present. Within this chronological framework, the course will examine the historical changes that have shaped African American life and culture, explore how African Americans have understood their lives as individuals and as members of families, communities and institutions, evaluate how ideas about race and color have formed the societies in which Americans lived, and examine the struggle of African Americans to gain freedom, full citizenship, civil rights, and equality. (Prerequisite(s): Grade of “C” or better in READ 0721 or appropriate assessment score) (MnTC: Goals 5 & 7) 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. (Prerequisite(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 is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (Prerequisite(s): READ 0721 with a grade of “C” or better or concurrent enrollment or appropriate assessment score.) (MnTC: Goals 5 & 7) Variable credits 1-6

HIST 2790 Historical Methods
This course is a capstone experience intended for students pursuing an AA degree with an emphasis in history. Students will arrange this course with a history instructor and, along with the instructor, tailor their course to their interests and/or intended future area of study. Students will be exposed to the profession’s methodology and produce a research-based semester-long capstone project. (Prerequisite(s): Instructor approval) (MnTC: Goals 5 & 7) 2C/2/0/0

Hospitality Management

HSPM 1410 Introduction to Hospitality Management
This course provides an orientation to the hospitality industry. This includes an introduction to the structure of lodging, food service and tourism organizations, the role of lodging departments, the future of the industry and career opportunities. Course structure includes lecture, projects, discussion and guest speakers. 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 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 and 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. 3C/3/0/0

HSPM 2591 Hospitality, Management Internship
This course provides students the hands-on opportunity to work in the hospitality industry. (Prerequisite(s): Advisor approval) Variable credits 1-3

Human Resources

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. 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 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 and 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 credits 3–6

Humanities

HUMA 1720 The Ancient and Medieval World
This course introduces students to the global humanities and shows the relationship between cultures of the past and life in the present. The course includes an examination of written works, art, architecture, and religion from Greece, Rome, the Middle Ages and the Renaissance, and other cultures. Texts, materials and interdisciplinary assignments will examine the arts and ideas of the West in relation to those of other world cultures, including India, East Asia, Africa and Native America. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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 other world cultures, including India, East Asia, Africa and Native America. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 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 approach film in an intelligent and critical way. We will view representative examples of the major film genres and styles, including comedy, western, film noir, and others. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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 engage 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 films from Europe, Japan, India, China, Africa, and Latin America. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

HUMA 1795 Special Topics in Humanities
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) Variable credits 1-6

Individualized Studies
INDS 1400 Individualized Studies Development
This course covers the development of the individualized studies degree plan. Upon completion of the course, students will have a completed individualized studies plan which meets their career and employment goals. 1C/1/0/0

Interpreter/Transliterator Sign Language
INTP 1440 Orientation to Interpreting
This course introduces students to the profession of sign language interpreting. It covers the history of interpreting as a field of professional practice, the required professional ethical and performance standards, the impact of legislation on the field, the phenomena of cross cultural dynamics, oppression of minority groups and the role of an interpreter as a cultural mediator. (Prerequisite(s): INTP 1500 Interpreting Process with a grade of “C” or better) 3C/3/0/0

INTP 1442 English Grammar for Sign Language Interpreters
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/transliterator. 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 credits 1-5

INTP 1500 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/Transliterator Program and ASLS 1420 ASL Linguistics and/or INTP 1442 English Grammar for Sign Language Interpreters with a grade of “C” or better or taken concurrently with ASLS 1420 ASL Linguistics and INTP 1442 English Grammar for Sign Language Interpreters. It is necessary for students in the Sign Language Interpreter/Transliterator Program to be able to process auditory and visual information.) 2C/2/0/0

INTP 1512 Consecutive Interpreting 1
This course develops consecutive interpreting skills introduced in INTP 1500 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 1500) 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 2592 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 2422 Voice to Sign 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 with techniques for translating the source language English to the target language American Sign Language (ASL) in a simultaneous manner. (Prerequisite(s): Grade of “C” or better in INTP 1513) 4C/1/1/30

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 2431) 2C/1/1/0

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 2432) 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 2585 Internship Orientation
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 2592 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 Interactive Performance Skills Evaluations in INTP 2412 Sign to Voice 2, INTP 2422 Voice to Sign 2 and INTP 2432 Transliterating 2) 5C/0/0/5

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): Declared Massage Therapy major) 4C/2/2/0

MASS 1421 Massage Spa Techniques
Students will refine previously learned techniques from the MASS 1400 course. Advanced techniques in chair massage, hydrotherapy, stone therapy, lymphatic drainage massage, reflexology, aromatherapy, pregnancy massage and body wraps will be introduced. Students will learn to integrate various spa techniques in a single massage session. 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): MASS 1400 with a grade of “C” or better) 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 Isolative Stretching and Positional Release Technique. Students will learn to perform thorough patient assessments utilizing medical histories and objective findings through palpation, functional muscle testing, range of motion testing, postural examination and gait examination. Students will learn to create a care-plan based on evaluations; create treatment plans using carefully selected techniques for the given pathology; and learn to recommend exercises to the patient. Students will learn to give supplementary care as prescribed by a licensed Physician, Chiropractor or Physical Therapist for pathologies including multiple sclerosis, spinal cord injury, traumatic brain injury, stroke, diabetes, AIDS, cancer, burns, post-surgical scarring, chronic pain and fibromyalgia. (Prerequisite(s): Certificate in Massage Therapy or equivalent as evaluated by faculty) 5C/2/3/0

MASS 1480 Massage Therapy Practicum
This course meets the requirement of the performance and documentation of the minimum 50 full-body sessions. Students will demonstrate and apply all previously learned techniques including use of client intake information, knowledge of massage therapy contraindications and skills in charting for each client. Must earn a grade of “C” or better in this course. (Prerequisite(s): MASS 1400 and MASS 1422 with a grade of “C”) 4C/0/0/4

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.) 5C/0/0/5
Mathematics

MATH 0910 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, exponents, polynomials and quadratic equation solving and applications. (Prerequisite(s): Appropriate assessment score) 3C/3/0/0

MATH 0920 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). Students wanting to take Calculus will have the option of taking either Pre-Calculus or both College Algebra and Trigonometry as their prerequisites. (Prerequisite(s): Grade of “C” or better in MATH 0910, or appropriate assessment score) 3C/3/0/0

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.) 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.) 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 0910 Introductory Algebra with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 4) 3C/3/0/0

MATH 1710 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. Students wanting to take Calculus will have the option of taking either Pre-Calculus or both College Algebra and Trigonometry as their prerequisites. (Prerequisite(s): MATH 0920 with a grade of “C” or better, or appropriate assessment score) (MnTC: Goal 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 0920 Intermediate Algebra with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 4) 4C/4/0/0

MATH 1750 Trigonometry
This course introduces trigonometric functions and their applications. Topics in trigonometry include angles and the unit circle, graphs of functions, equations, identities, triangles, and the Laws of Sines and Cosines. Vectors, polar coordinates, and parametric equations will also be explored. A review of the fundamentals of functions will be included at the beginning of the course. Students wanting to take Calculus will have the option of taking either Pre-calculus or both College Algebra and Trigonometry as their prerequisites. (Prerequisite(s): MATH 1730 College Algebra with a grade of “C” or better, or appropriate assessment score) (MnTC: Goal 4) 3C/3/0/0

MATH 1762 Pre-Calculus
Pre-Calculus is often described as an accelerated version of College Algebra and Trigonometry. This course introduces algebraic and trigonometric functions and their applications. Topics include polynomial, rational, exponential, logarithmic functions, sequences, series, and limits. Vectors, parametric equations, and analytic geometry will also be explored. In addition, this course covers trigonometric functions, identities and equations and the laws of sines and cosines. (Prerequisite(s): MATH 0920 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) 5C/5/0/0

MATH 1790 Special Topics in Mathematics
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 4) Variable credits 1-6

MATH 2100 Intermediate Statistics
Second course in statistics provides an approach to statistical practices including nonparametric methods, simple regression, multiple regression, logistic regression, log-linear regression, ANOVA and survival, component and Bayesian data analysis. Application and interpretation of computer output will be highlighted. This course should be useful to students who are interested in learning natural sciences, economics, finance and data science. This course can be used to fulfill the general education requirement for math, and transfer to 2 and 4 year institutions. (Prerequisite(s): MATH 1740 Introduction to Statistics with a grade of "C" or better) (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 1750 Trigonometry or MATH 1762 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, sequences and series and parametric equations and polar coordinates. A graphing calculator is required. Upon completion of Calculus 2, students can take either MATH 2753 or MATH 2760. (Prerequisite(s): A grade of “C” or better in MATH 2749) (MnTC: Goal 4) 4C/4/0/0

MATH 2753 Multivariable Calculus
This course is intended for students who have successfully completed MATH 2750 Calculus 2 and covers the calculus of several variables. Topics include functions of several variables, three-dimensional analytic geometry, vectors, partial derivatives, multiple integrals, vector fields, surface integrals, Green’s Theorem, Stokes Theorem, and the Divergence Theorem. (Prerequisite(s): MATH 2750 Calculus 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 4) 4C/4/0/0

MATH 2760 Differential Equations and Linear Algebra
This course is an introduction to differential equations and linear algebra, which focuses on ordinary differential equations but students will be introduced to partial differential equations. Topics include the basic definition, terminology and ideas of ordinary differential equation, finding solutions of and working with applications of first and second order differential equations, existence and uniqueness of solutions, variation of parameters, undetermined coefficients, matrix formulation of linear systems, Laplace transforms, and an introduction to numerical and graphical methods of solutions. Additional topics include Gaussian-Jordan reduction and system of Linear equations, matrices and coordinates relative to different bases, general linear spaces, orthogonality, determinants, eigenvalues, eigenvectors, and phase plane analysis of linear and nonlinear systems of ordinary differential equations. (Prerequisite(s): MATH 2750 Calculus 2 with a grade of “C” or better or appropriate assessment score) (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 in MDLT Major coursework. (Prerequisite(s): Enrollment in MDLT Major courses) 1C/1/0/0

MDLT 1410 Laboratory Techniques
This course covers basic skills and techniques used in the medical lab which includes 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 in MDLT Major coursework. (Prerequisite(s): CHEM 1711 and BIOL 1730 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 hemopoiesis theory and blood cell structure concepts including function, appearance, and cell differentiation. 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 in MDLT Major coursework. (Prerequisite(s): Enrollment in MDLT Major courses) 2C/1/1/0

MDLT 1422 Hematology 2
This course is a continuation of Hematology 1 in which blood cell differentiation study continues. Hematology instrumentation will be introduced and students will evaluate quality control. Emphasis is placed on correlating laboratory findings with hematologic diseases. Coagulation theory and laboratory procedures are used to evaluate hemostasis. 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 in MDLT Major coursework. (Prerequisite(s): MDLT 1421) 4C/1/3/0

MDLT 1430 Urinalysis/Body Fluids
This course covers basic urinalysis procedures used in the clinical laboratory in the examination of a patient’s urine. Students study urine formation, renal physiology, the role of the kidney in health and disease, urine specimen types, and components of the routine urinalysis test. The course also includes an overview of other non-urine body fluids analyzed in the clinical laboratory. In the laboratory, students will perform routine urinalysis using both manual and automated methods. Students will practice using a laboratory information system to order tests and report results. Must earn a grade of “C” or better in this course to proceed in MDLT Major coursework. (Prerequisite(s): Enrollment in MDLT Major courses) 3C/2/1/0

MDLT 1441 Clinical Chemistry 1
This course covers the analysis of various chemical constituents of plasma and serum. The physiology, methodology, and clinical significance of carbohydrates, non-protein nitrogen, and bilirubin is addressed. The course also includes a review/overview of renal and liver function blood tests to assess each. Laboratory Techniques concepts of solution math, spectrophotometry, pipetting and safety will be reviewed and emphasized. Quality assurance concepts, quality control procedures, and manual laboratory techniques will be presented and practiced. POCT procedures will be discussed and practiced. Students will employ a laboratory information system to order tests and report results. Must earn a grade of “C” or better to proceed in MDLT Major coursework. (Prerequisite(s): CHEM 1711 & BIOL 1740 or concurrent enrollment and MDLT 1410) 2C/1/1/0

MDLT 1442 Clinical Chemistry 2
This course covers the continued study of various chemicals in plasma/serum that are routinely analyzed to contribute to patient care. The physiology, test methodology and clinical correlations of proteins, enzymes, electrolytes, lipids, acid/base balance, and endocrinology are discussed. The course also includes a brief overview of therapeutic drug monitoring and toxicology. Instrumentation principles/methodologies found in modern clinical chemistry laboratories and concepts that are basic to the operation and maintenance of automated laboratory instruments are covered. Students will test samples and controls 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 to proceed in MDLT Major coursework. (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 procedures, and specimen transport/processing. Students may employ a laboratory information system to document specimen collection. Emphasis is placed on retaining competency in safe blood specimen collection as well as on demonstration of effective communication and professional skills to perform phlebotomy in a health care setting. Must earn a grade of “C” or better to proceed in MDLT Major coursework. (Prerequisite(s): MDLT 1410) 1C/0/1/0

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MDLT 1451 Learning Lab 1-Introductory Skills
This course reinforces the basic skills required for gaining proficiency in performing introductory medical laboratory procedures in hematology and basic skills. It is designed to allow completion of hands-on skill activities and enhance attainment of skills in MDLT 1410 and MDLT 1421. Students 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 in MDLT Major coursework. (Prerequisite(s): Concurrent enrollment in MDLT 1410 and MDLT 1421) 1C/0/1/0

MDLT 1452 Learning Lab 2-Introductory Skills
This course reinforces the basic skills required for gaining proficiency in performing introductory medical laboratory procedures in urinalysis, clinical chemistry, phlebotomy. It is designed to allow completion of hands-on skill activities and enhance practical aspects of MDLT 1430, MDLT 1441, and MDLT 1446. Students will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Safety, problem solving and quality assurance are emphasized. Must earn a grade of “C” or better to proceed in MDLT Major coursework. (Prerequisite(s): Concurrent enrollment in MDLT 1441, MDLT 1430, and MDLT 1446) 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 in phlebotomy, and clinical chemistry. It is designed to allow completion of hands-on skill activities and enhance practical aspects of MDLT 1422. Students will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Safety, problem-solving and quality assurance are emphasized. Must earn a grade of “C” or better to proceed in MDLT Major coursework. (Prerequisite(s): Concurrent enrollment in MDLT 1422) 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 in phlebotomy, immunology and hematology. It is designed to allow completion of hands-on skill activities and enhance attainment of skills in MDLT 1510 and MDLT 1422. Students 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 in MDLT Major coursework. Safety, problem solving and quality assurance are emphasized. (Prerequisite(s): Concurrent enrollment in MDLT 1422 and MDLT 1510) 1C/0/1/0

MDLT 1510 Immunology
This course 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 in MDLT Major coursework. (Prerequisite(s): Enrollment in MDLT Major courses) 2C/1/1/0

MDLT 2410 Immunohematology
This course covers the introduction to both the theoretical and practical aspects of Immunohematology, a specialized branch of laboratory medicine which involves the study of blood group antigens and antibodies. Areas of study include a review of immunology concepts, blood group genetics, reagents and quality assurance, antigens and antibodies of the ABO, Rh and other blood group systems, pre-transfusion testing procedures (ABO/Rh typing, antibody screening and identification, cross-match), hemolytic disease of the fetus and newborn, neonatal and obstetric transfusion medicine testing, adverse effects of transfusion, donor screening, and blood component preparation and usage. Students will perform a variety of transfusion medicine laboratory tests utilizing both tube and gel system methods. Must earn a grade of “C” or better in this course to proceed in MDLT Major coursework. (Prerequisite(s): Grade of “C” or better in MDLT 1510) 3C/1/2/0

MDLT 2420 Clinical Microbiology
This course covers the isolation and identification of clinically significant microorganisms. Emphasis is placed on organism’s growth characteristics, techniques for identification, safety, and quality assurance. Students will study conventional identification and susceptibility methods along with instrumentation used in the clinical microbiology lab. Students are introduced to recent advances in organism identification techniques. The correlation between pathogens, types of infection, and specimen sources is explored. Must earn a grade of “C” or better in this course to proceed in MDLT Major coursework. (Prerequisite(s): Grade of “C” or better in MDLT 1510) 4C/1/3/0

MDLT 2430 Clinical Practice Orientation
This course explains the role of the MDLT student during the practicum phase of the program. Students prepare for the Clinical Practice experience and review theoretical concepts and procedures of testing performed in various clinical laboratory departments. Clinical practice policies and expectations are addressed. Additionally, the application process and timeline of certification is discussed. Must earn a grade of “C” or better in this course to proceed in MDLT Major coursework. (Prerequisite(s): Grade of “C” or better in all coursework required through the first year including summer term) 1C/0/0/0

MDLT 2455 Learning Lab 5-Advanced Skills
This course reinforces the basic skills required for attaining proficiency in performing medical laboratory procedures in phlebotomy and immunohematology. It is designed to allow completion of hands-on skill activities and enhance practical aspects of MDLT 2410 course. This course also provides an opportunity for the enrolled students to recall and practice key laboratory skills from first-year MDLT courses in preparation for the upcoming MLT Clinical Practice. Students will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Safety, problem-solving and quality assurance are emphasized. Must earn a grade of “C” or better to proceed in MDLT Major coursework. (Prerequisite(s): MDLT 1446 and MDLT 2410) 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 in phlebotomy, microbiology, mycology, and parasitology. It is designed to allow completion of hands-on skill activities and enhance attainment of skills in MDLT 2500 and MDLT 2420. Students will be given the opportunity to perform a variety of laboratory techniques with direct instructor supervision. Safety, problem solving, and quality assurance will be emphasized. Must earn a grade of “C” or better in this course to proceed in MDLT Major coursework. (Prerequisite(s): Concurrent enrollment in MDLT 2500 and MDLT 2420) 1C/0/1/0

MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis
This course provides a comprehensive overview of the fundamental principles of molecular diagnostics and explores the application of molecular techniques in the medical laboratory. Topics of study include: molecular diagnostic foundation concepts, nucleic acid structure and function, genetics, molecular methodologies and quality assurance. The course also provides an opportunity for advanced study of non-blood, non-urine body fluids, with particular emphasis on hematologic exam. Topics of study include CSF, synovial, and serous fluids. (Pre-requisites: MDLT 1510, MDLT 1430 & MDLT 1422)

MDLT 2591 Clinical Practice
In this clinical laboratory course, the student is provided competency-based instruction in an affiliate hospital/clinic laboratory under the supervision of laboratory professionals. The work-based experience provides an opportunity for students to refine lab techniques and apply knowledge learned in the didactic phase in an employment-like setting with direct patient care that offers realistic experiences unavailable in student laboratory sessions. The experience also allows students to enhance non-technical attributes including, but not limited
to, communication, critical thinking, multi-tasking and independent work skills. Using competency checklists provided by the college laboratory professionals at the affiliate evaluate student clinical skills, application of knowledge, professional behavior and attributes in each department of the clinical laboratory (hematology, chemistry, urinalysis, microbiology, transfusion medicine, and coagulation) and specimen collection and processing skills. Required on-campus afternoons provide learning activities on special topics that assist students in attaining competency in the clinical practice setting. Additional required learning activities assigned by campus faculty that are supplemental to the Clinical Practice competency checklists assist students in maintaining mastery of cognitive theory in major clinical laboratory departments. Must earn a grade of "P" to proceed in MDLT Major coursework. (Prerequisite(s): Grade of "C" or better in all MDLT program requirements) Variable credits 1-9

MDLT 2593 Comprehensive Examinations
Students' knowledge of theory and practical applications in all department areas of the clinical laboratory will be evaluated by comprehensive examinations to assist them in their preparation for the national certification examination desired by potential employers. Students complete final summative evaluations of Clinical Practice experiences and of various components they experienced as a MLT Major. Job placement tracking efforts are described and forms provided. (Prerequisite(s): Grade of "C" or better in all required courses in the Medical Laboratory AAS degree including successful completion of MDLT 2591 Clinical Practice) 1/0/1/0

Medical Office

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 and 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. Must earn a grade of "C" or better in this course to proceed. 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. Must earn a grade of "C" or better in this course to proceed. 3C/3/0/0

MEDS 1551 Medical Formatting/Transcription I
This course 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MEDS 1480 or concurrent enrollment) 3C/2/1/0

MEDS 1552 Transcription And Documentation II
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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MEDS 1551) 3C/2/1/0

MEDS 1553 Advanced Medical Documentation
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. Must earn a grade of "C" or better in this course to proceed. (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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MEDS 1420) 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 claims and denials and adherence to the National Correct Coding Initiatives. Chargemaster maintenance, regulatory guidelines, reimbursement coding and reimbursement monitoring and reporting will be covered, in addition to compliance strategies. Must earn a grade of "C" or better in this course to proceed. (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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MEDS 1480 or MEDS 1470 or instructor permission) 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. Must earn a grade of "C" or better in this course to proceed. (Prerequisite(s): MEDS 1480) 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. Must earn a grade of "C" or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): MEDS 1420) 2C/2/0/0

MEDS 2461 ICD-10-CM Coding
This course teaches the student to accurately code diagnoses using the ICD-10-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 from each body system will be covered as well as coding from healthcare documents. Emphasis is on Principle Diagnosis, Secondary Diagnoses, Complications, and Comorbidities. Other topics include DRG’s, coding compliance, over-coding and under-coding. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): A grade of “C” or better in MEDS 1470 and MEDS 1480) 3C/3/0/0

MEDS 2462 ICD-10-PCS Coding
This course teaches the student to accurately code procedures using the ICD-10-PCS coding system. This class brings the student through all of the coding conventions in order to develop a basic coding foundation. Coding procedures from each section of ICD-10-PCS will be covered as well as coding from healthcare documents. Emphasis will be on Principle Procedure and Secondary Procedures, DRG’s, coding compliance, over-coding and under-coding. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): A grade of “C” or better in MEDS 1470 and MEDS 1480) 3C/3/0/0

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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): A grade of “C” or better in MEDS 1470 and MEDS 1480) 4C/4/0/0

MEDS 2480 Advanced Coding
In this course, students will use their basic ICD and CPT 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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): A grade of “C” or better in MEDS 2461, MEDS 2462 and MEDS 2470) 3C/3/0/0

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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): MEDS 1420 with a grade of “C” or better) 3C/3/0/0

MEDS 2590 HIT Internship/Capstone Project
Students will apply the coursework, theories, skills, and ethics learned during the program to the HIT Internship/Capstone. Under the supervision of a qualified health information professional, the student will gain professional practice and experience, when available, in a healthcare facility. Students will meet written goals and objectives and be evaluated by the Health Information Supervisor and the College Internship Coordinator. The capstone includes a focused review and objective measurement of the Domains and Subdomains required for writing the national certification examination. Students are required to select an independent area of study from a wide-range of topics and disciplines to broaden their scope of interest in health information management. Students work with faculty advisors to schedule the internship, independent study, and healthcare project. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): All required coursework for the Health Information Technology AAS Degree with a “C” or better in all MEDS-prefix courses and instructor approval.) 3C/3/0/0

MEDS 2594 Medical Coding Capstone Project
The focus of this class is to simulate 3 credits of on the job experience as a medical coding specialist at a multi-specialty healthcare facility. This internship will provide you with an opportunity to utilize your coding skills and knowledge in an electronic environment. The coding capstone is a vital part of your education that serves as a format to demonstrate your level of expertise. All coding assignments in this course may be compiled into a portfolio to present to a future employer. (Prerequisite(s): All required coursework for the Medical Coding Diploma with a grade of “C” or better or instructor approval.) 3C/3/0/0

Music

MUSC 1310 Applied Voice
Provides private instruction in music -- Vocal lessons by arrangement with the instructor. Fifteen one-hour lessons per semester. Coursework will be suited to the skill level of the student to develop musical technique. Extra charge for lessons assessed per semester. These credits may be repeated up to 8 credits.

MUSC 1320 Applied Piano
Provides private instruction in music -- Instrumental lessons by arrangement with the instructor. Fifteen one-hour lessons per semester. Coursework will be suited to the skill level of the student to develop musical technique. Extra charge for lessons assessed per semester. These credits may be repeated up to 8 credits.

MUSC 1700 Music Theory and Lab 1
This course is Part 1 of a four-semester sequence in Music Theory and Lab focusing on the development of written music notation, including scales, tonality, key modes, intervals, transposition, chords, cadences, non-harmonic tones and melodic organization. Aural Skills laboratory focuses on practical musicianship training in keyboard, sight singing, and ear training. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better, or appropriate assessment score) (MnTC: Goal 6) 4C/2/2/0

MUSC 1705 Music Theory and Lab 2
Part 2 of a four-semester sequence in Music Theory and Lab focusing on the development of written music notation, including scales, tonality, key modes, intervals, transposition, chords, cadences, non-harmonic tones and melodic organization. Aural Skills laboratory focuses on practical musicianship training in keyboard, sight singing, and ear training. (Prerequisite(s): MUSC 1700 with a grade of “C” or better) (MnTC: Goal 6) 4C/2/2/0
MUSC 1710 Music Theory and Lab 3
Part 3 of a four-semester sequence in Music Theory and Lab focusing on the development of written music notation, including scales, tonality, key modes, intervals, transposition, chords, cadences, non-harmonic tones and melodic organization. Aural Skills laboratory focuses on practical musicianship training in keyboard, sight singing, and ear training. (Prerequisite(s): MUSC 1705 with a grade of “C” or better) (MnTC: Goal 6) 4C/2/2/0

MUSC 1715 Music Theory and Lab 4
Part 4 of a four-semester sequence in Music Theory and Lab focusing on the development of written music notation, including scales, tonality, key modes, intervals, transposition, chords, cadences, non-harmonic tones and melodic organization. Aural Skills laboratory focuses on practical musicianship training in keyboard, sight singing, and ear training. (Prerequisite(s): MUSC 1710 with a grade of “C” or better) (MnTC: Goal 6) 4C/2/2/0

MUSC 1720 Fundamentals of Music
This course has been designed and structured for students with very little or no musical background. Its goal is to provide you with the tools for a basic understanding of the rudiments of music. Course topics include: The Keyboard, Notation: Staff, and Melody, Clefs, Major Scales, Key Signatures, Minor Scales, Intervals, Triads and The Dominant Seventh Chord, Introduction to Rhythm and Meter, Basic Ear Training Exercises. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 3C/3/0/0

MUSC 1730 Concert Choir
This course is a mixed choral ensemble specializing in a wide range of sacred and secular choral literature of all historical periods and nationalities. The ensemble provides singers the opportunity to rehearse, learn and perform repertoire for an a cappella choir as well as repertoire performed with professional instrumental ensembles. The Saint Paul College Concert Choir is open to all students, regardless of major. (MnTC: Goal 6) 2C/0/2/0

MUSC 1735 Classical Piano 1
Part 1 of a two-semester sequence designed to develop basic keyboard and musicianship skills including technique, sight reading, harmonization, accompaniment, theory, and piano repertoire in preparation for the Piano Proficiency Exam. (MnTC: Goal 6) 2C/0/2/0

MUSC 1736 Classical Piano 2
Part 2 of a two-semester sequence designed to develop basic keyboard and musicianship skills including technique, sight reading, harmonization, accompaniment, theory, and piano repertoire in preparation for the Piano Proficiency Exam. (Prerequisite(s): MUSC 1735 with a grade of “C” or better or instructor approval) (MnTC: Goal 6) 2C/0/2/0

MUSC 1740 Music Appreciation
This course is designed to heighten the enjoyment of music by improving listening skills, increasing musical knowledge, and exploring new forms and styles of Western music throughout the centuries. Course topics will include basic elements of music, musical form and style throughout history, and representative composers and their music. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

MUSC 1745 History of Rock and Roll
The purpose of this course is to explore the emergence of rock and roll music as a cultural phenomenon in the United States. Besides rock and roll, American musical styles including rhythm and blues, country, folk and rock will be studied within a historical and cultural perspective. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 7) 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. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 7) 3C/3/0/0

MUSC 1760 American Music
This course provides an introduction to folk, ethnic, popular and classical music in the United States. It is designed to help students become familiar with the music from diverse cultural groups and regions of the country. America’s Music is an historical overview of the evolution of musical traditions in American society. Attendance at a live performance is required. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 7) 3C/3/0/0

MUSC 1765 Music of Latin America and the Caribbean
This course introduces the musical styles and genres of Latin American and Caribbean music and the mix of aesthetic, cultural, and geographical distinctions that have emerged over time to define and identify the music of the continent. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 7) 3C/3/0/0

MUSC 1770 Music in World Cultures
The aim of this course is to gain a broader understanding of music as a worldwide phenomenon through the study of selected musical traditions and cultures of the world. This course will concentrate on the development and historical background of the music, the traditions and cultures of the world. This course will concentrate on the development and historical background of the music, the traditions and cultures of the world. This course will concentrate on the development and historical background of the music, the traditions and cultures of the world. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

MUSC 1790 Special Topics in Music
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 6) Variable credits 1-6

MUSC 2720 Music History 1: Medieval to Baroque
A study of Medieval, Renaissance, and Baroque periods of music. An emphasis is placed on the development of music and its literature within social, cultural, political, and religious contexts. (Prerequisite(s): ENGL 1711) 3C/3/0/0 (MnTC: Goals 6 & 8)

MUSC 2721 Music History 2: Classical to Modern
A study of Classical, Romantic, and Twentieth Century periods of music. An emphasis is placed on the development of music and its literature within social, cultural, political, and religious contexts. (Prerequisite(s): ENGL 1711) 3C/3/0/0 (MnTC: Goals 6 & 8)
Course Descriptions
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Nanoscience

NANO 1100 Fundamentals of Nanotechnology 1
This course provides an introduction to nanoscience and includes the history of nanotechnology and also an introduction into the tools used to study the world at the nanoscale. This course also covers a sense of scale, exponential notation, surface area to volume ratio, molecular and atomic structure and the various forces that are predominant at various scale levels (macro, micro and nano). Understanding of these concepts is fundamental to learning how nanoscale interactions and phenomena differ from those in our common macroscale world. Societal impacts along with a technology maturity model are also considered as they apply to nanoscience. Finally this first course provides specific study of the application of nanotechnology to biological areas such as the study of proteins, drug interactions, cell operation and ion channels. Sensing systems and newly developed diagnostic tools that are a result of understanding the biological system at the nanoscale are also discussed. Students taking this course should either have successfully completed a college biology course, physics course (first semester) and algebra or be taking these courses concurrently with the 1100 course. 3C/3/0/0

NANO 1110 Student Lab Experience and Research
This course will provide introductory experience with nanotechnology equipment, investigative research approaches and critical thinking methodologies. The students will work on industry provided problems and examples, traditional nanoscience experiments and independent work. This class will focus on the investigative process, scientific method and project planning. Students will apply and investigate foundational nanotechnology concepts while learning basic equipment operation, safety techniques and basic lab procedures. (Prerequisite(s): None.) 3C/2/1/0

NANO 1200 Fundamentals of Nanotechnology 2
The second semester course focuses on the material science, chemistry and physics aspects of the nanoscale. The course begins with the discussion of elemental material attributes and how environment can impact properties and performance of the starting material. Crystal structure and material properties are then discussed with an emphasis on differences in interactions and measurements at various scale realms. Using the current semiconductor fabrication process as a foundation, students are introduced to the concepts and limitations of current photolithography and etching processes. New approaches toward electronic circuits are introduced as students gain an understanding of the current process and necessary operation concepts for today’s electronic devices. Finally, the concepts of fluid mechanics, optics, photonics and lasers are discussed with an emphasis on new applications and devices based on nanoscale properties. Students taking this course should have either taken chemistry and the second semester of physics or be enrolled in these courses concurrent with the 1200 course. (Prerequisite(s): MATH 1730, BIOL 1740, NANO 1100, and PHYS 1720 with grades of “C” or better) 3C/3/0/0

NANO 1210 Computer Simulation
This course will cover the application of computer simulation (modeling) to nanoscale systems. In addition, this course provides a visualization of concepts and interactions covered in NANO 1100 and NANO 1200. The course will cover applied statistics, design of experiments and impact of input parameter variations for biological and mechanical systems. (Prerequisite(s): NANO 1100 with a grade of “C” or better) 1C/0/1/0

NANO 2101 Nanoelectronics
This course will increase the depth of topics and discussion of those covered in NANO 1200. Quantum physics will be reintroduced at a greater depth with coverage of band structure, conduction, diffusion, thin film response and optical properties from a modern physics perspective. Students will study, measure, evaluate and create fabricated structures such as nanowires, cantilevers and nano channels. Application of nanoscale principles will be used to discuss imprint lithography, etching, component block assembly of nanotransistors, quantum computing, magnetic and electron spin memory and holographic memory devices. (Prerequisite(s): NANO 1100, NANO 1200, and NANO 1210 with a “C” or better. Concurrent registration in NANO 2111, NANO 2121, NANO 2131, NANO 2140 and NANO 2151.) 3C/3/0/0

NANO 2111 Nanobiotechnology/Architecture
This course will increase the depth of topics and discussion of those covered in NANO 1100. Students will investigate the potential of nanoscience in multiple biological applications including nanopore, nanoparticle and nanochannel structures, diagnostics and treatment. Emphasis will be placed on interactions between biological and non-biological systems and understanding biochemistry. (Prerequisite(s): NANO 1100 with a grade of “C” or better. Concurrent registration in NANO 2101, NANO 2121, NANO 2131, NANO 2140 and NANO 2151.) 3C/3/0/0

NANO 2121 Nanomaterials
This course will increase the depth of covered topics and discussion of those covered in NANO1100 and NANO1200 courses. Subjects covered include single walled and multiwalled carbon nanotubes (fabrication, property measurement and compound formulation), creation of nanomaterials, particles and crystals by various processes including colloidal suspensions, deposition, evaporation and plating. Properties (hardness, wear resistance, adhesion, conductivity etc.) and measurement techniques of nanomaterials will be covered. Interactions between organic and inorganic materials such as micro array techniques and bacteria molding will be discussed. (Prerequisite(s): NANO 1100 and NANO 1200 with a grade of “C” or better. Concurrent registration in NANO2101, NANO2111, NANO2131, NANO 2140 and NANO2151.) 3C/3/0/0

NANO 2131 Manufacturing Quality Assurance
This course will cover multiple manufacturing methodologies (chemical solutions, electro filament, molding, coating, rolling etc. first in the traditional sense and second as these techniques apply to the nanoscale. Quality Assurance (Six Sigma) practices will be discussed with an emphasis on QA and reliability at the nanoscale. Design of experiments, measurements, approaches, data tracking, process improvement and statistical analysis and reporting will be discussed. (Prerequisite(s): A grade of “C” or better in NANO 1100, NANO 1200, and NANO 1210. Concurrent registration in NANO 2101, NANO 2111, NANO 2121, NANO 2140 and NANO 2151.) 2C/2/0/0

NANO 2140 Interdisciplinary Lab
This course will cover the experimental aspects of the accompanying third semester nano courses. Four major lab activities are planned for the course. Each lab will be a series of creation, measurement, assessment, improvement and rework. This circular understanding and assessment/ improvement cycle will be included in the detail lab descriptions. (Prerequisite(s): A grade of “C” or better in NANO 1100, NANO 1200, and NANO 1210. Concurrent registration in NANO 2101, NANO 2111, NANO 2121, NANO 2140 and NANO 2151.) 3C/0/3/0

NANO 2151 Career Planning and Industry Tours
This course will prepare students for the Nanoscience Technician Program fourth semester at the University of Minnesota and also for the job market upon graduation. Class discussion and guest speakers will advise students in selection of a specific career path, creation of a resume and portfolio, preparation and practice in job interviewing and options for continuing education. The industry tours will provide students with a broad experience of potential jobs and activities related to nanoscience in a variety of industrial settings. This internship will support career decisions and provide visual application of the concepts studied. Each student will spend a total of approximately 20 hours in various industrial settings, visiting 4 to 6 companies from various industries to complete the total 20 hours. (Prerequisite(s): A grade of “C” or better in NANO 1100, NANO 1200 and NANO 1210. Concurrent registration in NANO 2101, NANO 2111, NANO 2121, NANO 2131 and NANO 2140.) 1C/1/0/0
NANO 2970 Industry Internship
Students will participate in observational internship at one or more industry locations. This internship will provide a broad base of application knowledge, which will complement and enhance specific course materials. Industry Task Force members have committed to providing internships. (Prerequisite(s): NANO 2131 with a grade of “C” or better.) 1C/0/0/1

Natural Sciences

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, hybrid, and online sections are available. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 3C/3/0/0

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. Traditional and hybrid sections are available. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 4C/3/1/0

NSCI 1740 Introduction to Meteorology
This course introduces students to basic scientific principles of meteorology. Topics include basic properties of the atmosphere, weather terminology, weather phenomena, instrumentation and forecasting. Course includes lab-like learning activities. Traditional and hybrid sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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 and hybrid sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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. Traditional and hybrid sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1780 Contemporary Issues in Science
Scientific dilemmas and advances in science make headlines every day. Without knowing the science behind the top issues, it is difficult to separate fact from hype. In this course we will focus on contemporary issues such as climate change, renewable energy, environmental toxins, stem cell research, gene therapy, and pandemic diseases. Students will learn the basic scientific concepts behind each issue and will then explore the ethical dilemmas that each issue brings up. Course includes lab-like learning activities. Traditional, hybrid, and online sections are available. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (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. The research component will be pursued using 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. Traditional and hybrid sections are available. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 3C/3/0/0

NSCI 1790 Special Topics in Natural Science
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goals 3 & 10) Variable credits 1-6

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. (Prerequisite(s): Instructor approval) (MnTC: Goal 3) 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 Orientation 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
**Pharmacy Technology**

**PHAR 1710 Pharmacy Law and Ethics**
This course will provide the student with the Federal and State laws as they pertain to pharmacy. This course will also address ethical theories and principles as they apply to the area of pharmacy practice. It will assist in preparing the student for the Pharmacy Technician Certification Exam. Must earn a grade of “C” or better to proceed in the Pharmacy Technician program. 3C/3/0/0

**PHAR 1715 Fundamentals of Pharmacy Technology 1**
Fundamentals of Pharmacy Technology will provide students with a detailed, interactive experience that leads to the understanding of community pharmacy practice, medication safety and communications in health care. Students will participate in active learning activities in the classroom, online and in the pharmacy lab. This course is intended to meet the goals of the model curriculum for pharmacy technician training developed by the American Society of Health-System Pharmacists. This class will provide to the student information necessary for preparation of the Technician Certification Exam in prescription processing. Must earn a grade of “C” or better to proceed in the Pharmacy Technician program. 5C/4/1/0

**PHAR 1720 Foundations of Pharmaceutical Calculations**
This course will introduce the student to foundational mathematical calculations utilized in pharmacy practice. This course will teach mathematical calculation and problem solving for production of pharmaceutical products. Must earn a grade of “C” or better to proceed in the Pharmacy Technician program. (Prerequisite(s): MATH 0745 or appropriate assessment score) 4C/4/0/0

**PHAR 1730 Principles of Pharmacy**
This course offers a didactic review of prescription processing with laboratory application. Students will receive skill development and problem solving in non-sterile product preparation. (Prerequisite(s): PHAR 1720 Foundations of Pharmaceutical Calculations) 5C/3/2/0

**PHAR 1735 Pharmacy Medication Technology**
The student will use technologies within the scope of pharmacy practice. (Prerequisite(s): PHAR 1715 Fundamentals of Pharmacy Technology 1) 1C/1/0/0

**PHAR 1750 Pharmacy Internship 1 - Retail**
Students will receive pharmacy practice experience to refine skills necessary for employment as a pharmacy technician in a retail setting. (Prerequisite(s): PHAR 1730 Principles of Pharmacy with a grade of “C” or better) 3C/3/0/3

**PHAR 2710 Fundamentals of Pharmacy Technology 2**
Systems, regulations and applications of pharmacy practice in institutional settings. (Prerequisite(s): PHAR 1715 Fundamentals of Pharmacy Technology 1 with a grade of “C” or better) 5C/4/1/0

**PHAR 2720 Pharmacy Sterile Products Lab**
This class will provide the student with the knowledge and skills to prepare, calculate, or produce sterile products for pharmaceutical use. (Prerequisite(s): PHAR 2710 Fundamentals of Pharmacy Technology 2) 5C/4/1/0

**PHAR 2740 Pharmacotherapy of Disease Processes**
The basic concepts of diseases and the mechanisms of disease will be presented. It will include the general physiologic principles for the following systems: nervous, endocrine, skeletal, muscular, cardiovascular, respiratory, gastrointestinal, renal, reproductive, skin, hematologic. The course will discuss immune disorders and immune system responses along with infectious diseases and effects of nutrition and heredity on disease. (Prerequisite(s): PHAR 1715 Fundamentals of Pharmacy Technology 1 with a grade of “C” or better) 4C/4/0/0

**PHAR 2750 Pharmacy Internship 2 - Hospital**
Experience in the institutional/hospital setting to refine skills learned in previous pharmacy technician coursework. (Prerequisite(s): PHAR 1750 Pharmacy Internship 1 - Retail) 4C/0/0/4

**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 will include areas such as the nature of human knowledge, perception and illusion, the nature of consciousness, personal identity, minds, brains and machines, freedom and determinism, philosophy of religion, and the meaning of life. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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**
This course explores philosophical questions about the nature of science and scientific reasoning and helps students build skill at using and evaluating scientific reasoning. For instance, the course will address questions such as: What is the nature of science? Is science compatible with religion? How does science work? Are there limits to the knowledge science can give us? What is the difference between science and pseudoscience? How can we do a good job of understanding and evaluating scientific reasoning, especially when it is reported in the popular media? The course will explore these questions using historical and contemporary case studies about a variety of subjects, including evolution, astronomy and astrology, and theories and ideas in the social sciences, physics, and biology. The goal of the course will be to use these case studies to explore philosophical questions about the nature of scientific reasoning and to develop their own ability to understand and evaluate scientific reasoning in their lives and career fields. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 6) 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. 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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 9) 3C/3/0/0
PHIL 1724 Environmental Ethics
This course will focus on helping students develop the ability to understand, analyze, and evaluate moral arguments about the value of nature and our obligations to the natural world and the human and non-human creatures that inhabit it. Topics will include global warming, pollution, animal welfare, anthropocentric and non-anthropocentric views of the value and role of nature, ecofeminism, the moral status of cultural and religious practices that affect the environment, energy and resource policy, conservation and the land ethic, and global and intergenerational justice. The course will include an introduction to basic skills and concepts in ethical theory and applied ethics. (Placement into this course will be according to the College assessment score.) (MnTC: Goals 6 and 10) 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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

PHIL 1742 Greek and Roman Mythology
This survey course introduces students to Greek and Roman myths: 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. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (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 Dhammapada. 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 discussion format supplemented by instructor lectures. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

PHIL 1760 World Religions
This course is an introduction to the world religions of Hinduism, Buddhism, Judaism, Christianity and Islam. Attention may also be given to indigenous religions and new religious movements. The course will focus on the main practices and beliefs, scriptures, formative periods and historical development of these religions. It will also include ways fundamental religious questions are answered and a critique of religion from a secular perspective. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 6 & 8) 3C/3/0/0

PHIL 1770 Feminist Philosophy
Feminist philosophers seek to understand and critique practices and institutions that oppress and subordinate women. They explore questions like: what is the nature of gender oppression, and how is it related to other types of oppression, such as racial oppression? What makes someone a woman or man? Is there a difference between a person’s sex and their gender? Are women “naturally” different from men, and would it matter if they were? Is there a male bias in science and ethics? Can a pluralistic society like ours fight women’s oppression while also recognizing the rights of cultures to maintain their distinctive practices? In this class, students will work to understand and evaluate prominent feminist answers to these questions, with an emphasis on helping students develop their own well-reasoned views on feminist issues and apply those views to their own lives. (MnTC: Goal 6 & 7) 3C/3/0/0

PHIL 1790 Special Topics in Philosophy
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (Prerequisite(s): READ 0722 with a grade of “C” or better, or appropriate assessment score) (MnTC: Goal 6) Variable credits 1-6

Phlebotomy

PHLB 1405 Phlebotomy
This course provides instruction in blood specimen collection skills and procedures. The course addresses safety, legal issues, customer service, professionalism, equipment, venipuncture, skin puncture procedures, and specimen transport/processing. Emphasis is placed on attaining competency in safe blood specimen collection and effective sample processing/handling to preserve specimen integrity as well as on demonstration of effective communication and professional skills to function in a health care setting. (Prerequisite(s): HLTH 1410, BIOL 1730, PHIL 1722, COMM 1710 or COMM 1720, HLTH 1430 or HLTH 1432 or concurrent enrollment) 4C/2/2/0

PHLB 1410 Phlebotomy Clinical Experience
This course provides concentrated practice and phlebotomy skill development in a health care setting (affiliate) where information learned in PHLB 1405 can be applied. Students work under the guidance and supervision of clinical staff at the assigned affiliate. Demonstration of a minimum of 100 successful blood collection procedures is required. The specific class times will vary according to the assigned site. (Prerequisite(s): PHLB 1400) 2C/0/0/2

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, work, forces, gravity, waves and sound, and energy. 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. Class includes lecture and lab. (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 electricity and magnetism, light and optics, simple circuits, topics in modern physics and applications and technology. Class includes lecture and lab. (Prerequisite: PHYS 1720 Principles of Physics 1) (MnTC: Goal 3) 4C/3/1/0
PHYS 1760 Descriptive Astronomy (no lab)
This course introduces students to astronomy. It includes the observation of the planets and stars weather permitting. The course will include topics such as life and death of stars, dark matter, formation of a solar system, the Big Bang Theory and more. Course includes lab-like learning activities. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 3C/3/0/0

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 Fluid Dynamics. 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/4/1/0

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. 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/4/1/0

PHYS 2760 Introductory Astronomy (with lab)
This course is designed for the non-science student who wants to know more about astronomy. We’ll be studying the motion of the night sky, the planets and what shapes them, how stars are made and what happens when stars die all the way out to the edges of the known universe. Topics of note will include Planetary Formation, Extra Solar Planet Search, Dark Matter, Dark Energy, the Expanding Universe, and many more fun topics! This course includes a laboratory component with hands on activities to help build understanding. (Prerequisite(s): MATH 0745 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 3 & 10) 4C/3/1/0

PHYS 2790 Special Topics in Physics
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 3) Variable credits 1-6

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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): PIPE 1451 and 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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Must be enrolled in Pipefitting apprenticeship program.) 2C/0/2/0

PIPE 1522 Basic Air Conditioning and Refrigeration
Fundamental concepts of air conditioning are presented. Areas include air treatment, moisture content, ventilation and purity. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): PIPE 1451 and must be enrolled in Pipefitting pre-apprenticeship program) 2C/1/1/0

PIPE 1530 Pipe Welding 2
Basic course in arc welding on plate and pipe. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): PIPE 1451 and must be enrolled in Pipefitting pre-apprenticeship program) 5C/0/5/0

PIPE 1540 Electric Controls
Fundamentals of electricity and electrical circuits are covered. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): PIPE 1451 and 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. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): PIPE 1451 and must be enrolled in Pipefitting pre-apprenticeship program) 3C/2/1/0

PIPE 1716 Certified Pipe Welding Layout (Lab)
Students will learn pipe math layout for weld fittings in a lab setting. 2C/0/2/0

PIPE 2605 Pipefitting 1
Basic knowledge necessary to the beginning of a pipefitting career. 2C/0/2/0

PIPE 2606 Pipefitting 2
This course is designed to fill out an experienced pipefitter’s resume based on knowledge and acquiring certification levels. 2C/0/2/0
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 Pipefitter apprenticeship program) 2C/0/2/0

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/0/2/0

PIPE 2615 Pipe Layout and Installation 1
Care and use of tools and equipment used by the pipefitter. Study the pipe math necessary for pipe installation. Different types of pipe, pipe fittings, hangers and supports. Skills needed to install steel threaded pipe with both straight and offset runs. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2616 Pipe Layout and Installation 2
Advanced pipe layout math skills. Skills needed to run copper, PVC, CPVC. This will include soldering, bending, and flaring copper. Threading, gluing, and fusing of plastic pipe. Students will have the opportunity to receive a Certification in Fusion Installation. (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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2625 Steam, Hot Water & Gas Controls
This course is intended to provide the apprentice with information and skill for the proper piping of refrigeration, hot water and high-pressure steam. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2628 Commercial Pneumatics
This course is on learning control of modem 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/0/2/0

PIPE 2629 Steam, Hot Water & 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 Pipefitter apprenticeship program) 2C/0/2/0

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/0/2/0

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.  (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2636 Electrical Controls and Diagrams
This is an in-depth study of electrical controls and motors as there applied to heating, ventilation, air-conditioning, and refrigeration. Here you will gain a foundation, designed to prepare you for the real world of service in the HVAC industry. The focus in this course is on electrical controls, motors and their control. With a large emphasis of your time will be making diagrams and preparation for shop projects. Prepare you for the challenges you will face servicing HVAC equipment. The project design is to develop the skills needed to work safely and efficiently in this trade. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2639 Steam, Hot Water & 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 Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2641 Foreman Leadership
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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

PIPE 2642 Piping Design
This course will introduce the fundamentals in the design of ASME 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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0
PIPE 2644 Power 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. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 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) and other equipment installed in buildings which regulate environmental systems. (Prerequisite(s): Must be enrolled in the Pipefitter apprenticeship program) 2C/0/2/0

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/0/2/0

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 BTUs 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

PIPE 2658 OSHA 30/Pro 10/ Heritage/Standard
This course covers Industry safety practices professionalism, communication and mutual respect. Also covered is United Association History: how the United Association became an organization of trade workers, the importance of the collective bargaining agreement, and work site performance.

PIPE 2659 Commercial Building Systems
Covers industry safety standards, ASHRAE standards, HVAC-R Star Certification program curriculum. 2C/0/4/0

PIPE 2660 Industrial Rigging
Knowledge required to properly rig and lift piping and equipment associated with the installation of piping systems. 2C/0/2/0

PIPE 2661 Pipefitting for HVAC
Missing Copy 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 accepted into the Plumbing apprentice program) 2C/0/2/0

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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goals 5 & 9) 3C/0/3/0

POLS 1740 Introduction to World Politics
This course introduces core themes, concepts, and debates in the study of international politics. This course will focus on the causes of war, the global economy, human rights, and humanitarian intervention. Prerequisite(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 provides an introduction to political science with an emphasis on democracy, ideologies and current issues. We will explore how ideological differences lead to disagreements on a variety of global and domestic issues. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 9) 3C/3/0/0

POLS 1760 Introduction to Political Philosophy
This course provides an introduction to enduring themes and questions in the history of political philosophy. We will study a selection of both historical and contemporary thinkers as a way to investigate the social, moral and political foundations of modern society. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 9) 3C/3/0/0

POLS 1790 Special Topics in Political Science
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goals 5 & 9) Variable credits 1-6

Practical Nursing

PRNS 1425 Essentials of Clinical Pharmacology
This course introduces the concepts of pharmaceuticals and dosage math. Included is information on pharmacokinetics, pharmacodynamics, common adverse side effects, and contraindications to drug use. Emphasis is placed on drug classifications and safe administration of medications to patients across the life span. Dosage math includes information on the systems of measurement, conversions, solving for x, ratio and proportions, pediatric formulas, and IV drip rate problems. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): MATH 0745 or appropriate assessment score. Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711 and PSYC 1720. Must be accepted as a Practical Nursing major.) 2C/2/0/0

PRNS 1435 Foundations of Nursing
Students in Foundations of Nursing are introduced to basic theory and nursing skills required to care for patients of both genders throughout the lifespan, with particular emphasis on the geriatric patient. Students are given the opportunity to demonstrate these skills in the laboratory setting. An introduction to the nursing process provides the student with a beginning framework for decision making. The concepts of teamwork, collaboration, safety, quality improvement, professional identity/behavior, patient-centered care, evidence based practice, and care management are introduced. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711 and PSYC 1720. Must be accepted as a Practical Nursing major) 4C/1/3/0

PRNS 1481 Clinical 1
This course provides students the opportunity to work with health care personnel, apply learned basic skills, the nursing process, and critical thinking in caring for assigned patients. Students will follow plans of care, deliver safe and competent cares to patients of both genders, and complete written clinical assignments applying to theory learned in Level I. Students will demonstrate competency within the Practical Nurse scope of practice under the direction of a nursing instructor. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in PRNS 1425, PRNS 1435, PRNS 2410 and PRNS 1521) 3C/0/3/0

PRNS 1482 Clinical 2
In this clinical course, the Practical Nursing students will maintain a safe and effective care environment while taking care of selected patients throughout the life span. Students will implement cares and skills learned in prior Practical Nursing theory and lab courses while functioning within the roles and limitations of the LPN scope of practice. Students will use patient centered cares in collaboration with teamwork to meet the basic needs of assigned patients. Students will maintain professional identity by demonstrating dependability and accountability. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in PRNS 1481, PRNS 1524 and PRNS 2410) 3C/0/3/0

PRNS 1483 Clinical 3
In this clinical course, the Practical Nursing students will care for selected patients in specialty areas (med/surg, psychosocial nursing, pediatrics and obstetrics) to afford them a well-rounded experience. Students will implement patient centered cares learned in prior theory and lab courses. Students will continue to use LPN scope of practice as a guide to implement a safe and effective care environment, and medication administration will be safe. Students will demonstrate professional identity by being dependable and accountable for actions. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in PRNS 1482 and PRNS 1530) 3C/0/3/0

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PRNS 1521 Nursing Care of Adults 1
This theory course is a detailed study of pathophysiology of adult patients. Students use their knowledge of normal physiology, sensory, neurological, musculoskeletal, integumentary, hematologic, lymphatic, immune and infectious disease disorders are studied. Course topics also include fluid/electrolyte imbalance, pain management, pre- and post-operative care, oncology and gerontology. Students apply knowledge based on patient-centered care within the practical nurse scope of practice in preparation to provide safe, quality care. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711, PSYC 1720. Must be accepted as a Practical Nursing major.) 4C/4/0/0

PRNS 1524 Nursing Care of Adults 2
This theory course continues the study of pathophysiology of adult patients. Genitourinary/reproductive, cardiovascular, gastrointestinal, respiratory and endocrine system disorders are studied. Students at this level continue utilizing critical thinking to apply information to situations in a safe and effective care environment. Principles of inter-professional teams and shared decision-making are studied and discussed in preparation for clinical experiences. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711, PSYC 1720. Must be accepted as a Practical Nursing major.) 3C/3/0/0

PRNS 1530 Maternal Child Health
This course is designed to build on the student’s understanding of child growth and development and the basic health needs of the mother, the newborn infant, and the family during pregnancy, labor, delivery, and post-partum period. It provides an overview of the LPN scope of practice when caring for the obstetric and pediatric patient. Patient centered care is emphasized while discussing common pediatric disorders, recommended plans of care, and the concepts of prevention and treatment. Concepts of teamwork and collaboration are integrated throughout the course along with a specific group project each student must complete and present. Upon completion of this course, students will be able to describe safe and effective care utilizing the nursing process for the obstetric and pediatric patient. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711, PSYC 1720. Must be accepted as a Practical Nursing major.) 3C/3/0/0

PRNS 2410 Psycho/Social Nursing
This course is designed to build on the student’s understanding of human behavior and provides an overview of the LPN scope of practice when caring for patients with alterations in mental health. Patient-centered care is emphasized while exploring common mental health disorders such as depression, anxiety, schizophrenia, bipolar disorder, eating disorders, and cognitive disorders. Concepts of teamwork and collaboration are integrated throughout the course. The basic components of evidence-based practice are introduced. Upon completion of this course, students will be able to describe safe and effective patient care to maintain psychosocial integrity by using the nursing process. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): Grade of “C” or better in HLTH 1410, BIOL 1730, ENGL 1711, and PSYC 1720. Must be accepted as a Practical Nursing major.) 2C/2/0/0

PRNS 2491 Transition to Practice
In this course additional topics and skills are taught that relate to the professional scope of practice for the graduate practical nurse, demonstrating the progression from education to practice. Students will work in a clinical setting applying the knowledge, skills, attitude and the practice of safe effective care expected of the Practical Nursing graduate. They have progressed from a novice level to an accomplished level in the areas of communication, teamwork, problem-solving and the practice of safe effective care. In depth NCLEX-PN preparation is also emphasized in this course. 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/1/1/0

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: Goal 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 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 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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 7) 3C/3/0/0

PSYC 1790 Special Topics in Psychology
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 5) Variable credits 1-6

PSYC 2720 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. (Prerequisite(s): PSYC 1710 or SOCI 1710. READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goal 5 & 7) 4C/4/0/0

Public Health

PUBH 1700 Personal and Community Health
This course is designed to look at health from a personal, community, and populations perspective. Students will explore the many dimensions of health practices, behaviors, and concerns by covering topics such as, mental/emotional health, dietary practices, physical fitness, disease prevention and management guidelines, and health promotion. 3C/3/0/0
PUBH 1710 Consumer Health
Students will explore the selection, evaluation, and understanding of health information, medical services, advertising of products, health quackery, and socio-cultural factors revolving around consumer health. Students will learn basic knowledge and skills to navigate through consumer health issues, services, and products. 3C/3/0/0

PUBH 1790 Special Topics in Public Health
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. Variable credits 1-6

PUBH 2700 Public Health Education
This is a foundations course in health education and promotion for health educators. Students will learn the theories and models of health education, promotion, behavior change, and health promotion within government, worksites, public health agencies, and community organizations. Students will also explore determinants of disease, health, prevention, and interventions. (Prerequisite(s): PUBH 2710 with a grade of “C” or better or appropriate assessment score) 3C/3/0/0

PUBH 2710 Public Health Overview
A foundation course that introduces students to the concept, history and practice of public health. The course examines the environmental, social, political and behavioral determinants of health and disease from a population perspective. It also looks at options for intervening to maintain the public’s health through the use of the health care, public health, environmental health, and safety systems as well as laws and taxation. (Prerequisite(s): Any Goal 1 COMM or instructor approval) 3C/3/0/0

PUBH 2720 Global Health
This course introduces key principles and concepts of global health. Students will examine how culture, human rights, economics, policies, and health care systems contribute to the global burden of disease and health promotion. In addition to traditional methods of assessment, this course will emphasize oral presentations. (Prerequisite(s): READ 0722 with a grade of “C” or better or appropriate assessment score) 3C/3/0/0

PUBH 2730 Public Health Administration
This is a foundational course in health policy and management related to the delivery, quality, and cost of healthcare for individuals and populations. Students will explore local health professional training requirements, health insurance systems, the organization and management within public health settings and how they are influenced by politics. 3C/3/0/0

PUBH 2740 Environmental Health
This course is an introduction to the identification and analysis of environmental influences on health. Students will explore major environmental threats to health found in the house, air, water, solid waste, toxic waste, sanitation, and land use, as well as laws, policies, and practices associated with their control in the US and around the world. 3C/3/0/0

PUBH 2750 Public Health Advocacy & Leadership in Action
Take your public health education knowledge to the next level. In this course, students will develop an understanding of advocacy and their personal leadership style within public health promotion and education. Students will be prepared to participate within a community organization addressing a health issue important to them. Students will focus on the ways in which advocacy and leadership are connected to the assessment, planning, and implementation of health education and promotion programs. (Prerequisite(s): PUBH 2710) 3C/3/0/0

PUBH 2770 Public Health Practicum
This course is designed to provide public health students with 80 hours of worksite experience in the community. Students will apply public health knowledge gained throughout the program under the supervision of a public health professional. Students will have a shared responsibility in choosing the worksite, participating in appropriate worksite tasks, and reporting on their experience. (Prerequisite(s): Instructor approval) 2C/0/0/2

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

READ 0723 Accelerated: Reading 1 and 2
This accelerated course fulfills the requirements for READ 0721 Reading 1 and READ 0722 Reading 2. Reading 1 and 2 classes are designed for highly motivated students who wish to complete Reading 1 and 2 in one semester. (Placement into this course will be according to the College assessment score.) 6C/0/0/0

READ 0725 Vocabulary Development
This course emphasizes strategies and practice to build college-level and major-specific vocabulary, including guessing meaning from context, and identification of Latin/Greek roots and word parts. The course presents a variety of methods to increase reading, writing, and speaking vocabularies, as well as to foster lifelong vocabulary development. In addition to general academic vocabulary, students will build career-specific vocabulary through nonfiction and research reading in the major areas. 1C/1/0/0

READ 1490 Special Topics in Reading
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. Variable credits 1-6

Related Welding

RWLD 2621 Apprenticeship Pipe Weld 1
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. 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 2G, 5G, and 6G positions. Additionally, the student/welder will know how to make a root repair, describe the numbers on the electrodes, give an approximate weight of six-inch pipe, and be able to give the proper take-off dimensions for 90-degree and 45-degree weld fittings. 2C/0/2/0
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, cardiology, anatomy, physiology, mathematics, physics, and an introduction to the equipment used in basic respiratory care. An introduction to the sim lab and 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 introductory lab course provides a hands on experience with basic oxygen devices and equipment used in the practice of Respiratory Care. This will take place in the lab and simulation center. Vital signs, oxygen and pulse oximetry competencies will be done. 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, BIOL 1730, 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, BIOL 1730; Co-Requisite(s): RESP 1522, RESP 1540) 4C/3/1/0

RESP 1523 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 and SIM lab. Modalities included are High Flow, Small Volume Nebulizer, Hyperinflation Therapy, Bronchial Hygiene Therapy and Airways Management. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 1412; Co-requisites RESP 1521) 2C/0/2/0

RESP 1540 Respiratory Care Pharmacology
This is an in-depth course in cardiopulmonary pharmacology emphasizing drug classification, basic chemistry and action on tissue receptors. Describes indications, actions and dosages of drugs used in cardiopulmonary care. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): CHEM 1711, RESP 1411 and 1412, HLTH 1410 & BIOL 1730; Co-Require(s): RESP 1521 and 1522) 2C/1/1/0

RESP 1580 Introduction to Clinical
This course will introduce the student to the electronic medical record and requirements to start clinical’s the following semester. (Prerequisite(s): Entry to the Program; Co-requisite(s): RESP 1411, RESP 1412, and RESP 1540 1C/0/0/1

RESP 1581 Respiratory Care Clinical 1
Students will have direct patient contact and provide basic patient care procedures as directed by the clinic instructor. Emphasis is on data collection, application of oxygen, aerosol and humidification devices. Students will collect vital signs and practice physical assessment techniques. Students will record pertinent information in patient’s computerized chart. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 1411,1412, and RESP 1580 3C/0/0/3

RESP 1582 Respiratory Care Clinical 2
A continuation of clinical practice procedures for administration of routine patient care therapy. Student will build on previous clinical experience. Emphasis is on bedside patient assessment, High flow, SVN, MDI and CPAP. Must earn a grade of “C” or better in this course to proceed. In conjunction with clinical, a hybrid element includes case discussions, research data and clinical practice guidelines to enhance learning development. Specific hospital based policies and practice while identifying the AARC Clinical Practice Guidelines (Prerequisite(s): RESP 1581, RESP 2410) 3C/0/0/3

RESP 1583 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. In conjunction with clinical, a hybrid element includes case discussions, research data and evidence based clinical practice guidelines to enhance learning development. Specific hospital based policies and practice while identifying the AARC Clinical Practice Guidelines. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 1582) 6C/0/0/6

RESP 1597 Respiratory Care Clinical 4
A 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. Specialty rotations also are done this semester. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 1593) 5C/0/0/5

RESP 1599 Respiratory Care Clinical 5
A continuation of clinical practice skills with emphasis on critical care time management at an Adult ICU of the students choosing. In conjunction with clinical, a hybrid element includes case discussions, research data and evidence based clinical practice guidelines to enhanced learning development. Students will also rotate through Pediatric ICU and Neonatal ICU. A sleep rotation in a sleep lab will also occur. Each clinical training during hospital rotations will be supported through student internship/specific hospital based regulations and practice while identifying the AARC Clinical Practice Guidelines. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 1597) 4C/0/0/4

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 1512, RESP 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 2452 Advanced Simulation
This hybrid course is designed to train allied health program students in advanced critical care life support skills in a medical simulation lab setting. Students will be evaluated and observed on independent and team approach skills in a diverse simulation competency based scenario. Students will be assessed on skills based competencies on mock simulation patients in the lab, case study and scenario discussions. Students will be videotaped while they perform skills. Students must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 2440; Co-Requisite(s): BLS Card through AHA) 3C/0/3/0

RESP 2458 Multidisciplinary RT
This course reviews the multidisciplinary positions in respiratory care and management skills/position that is essential towards understanding an organizational environment and a healthcare manager’s ability to perform various functions. This course will review the challenges of respiratory care professions and when necessary, classical theory and concepts. This curriculum will focus on relatively new concepts and trends in organizational management. An Online Research review will incorporate evidence based medicine and learner based theory concepts to promote concepts of respiratory care management. It is designed to help develop a solid base of understanding of the traditional core management functions of planning, decision making, organizing, staffing and decision making as well as the emerging functions of coaching, counseling, teaching and facilitating. In addition, students will also review different specialties and alternative sites in Respiratory Care. (prerequisite(s): RESP 2440; co-requisites: RESP 2452) 1C/0/1/0

RESP 2470 Registry Review
This course is an advanced study in Respiratory Care Procedures and prep for the NBRC CRT and RRT exam. Each student will need to successfully pass an entry level CRT self-assessment exam at the end of the course. Must earn a grade of “C” or better in this course to proceed. (Prerequisite(s): RESP 2411, RESP 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

Sheet Metal

SMET 1410 Sheet Metal Fitting Layout & Design
Covers sheet metal layout using parallel line development, radial line development and triangulation. Duct design and sizing will be included. 4C/2/2/0

SMET 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 Heliaarc). 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. (Prerequisite(s): SMET 1410, SMET 1415, SMET 1420, SMET 1430, SMET 1440, SMET 1450) 4C/2/2/0
SMET 1520 Duct System Fabrication
Covers the fabrication and assembly of various types of duct systems. (Prerequisite(s): SMET 1410, SMET 1415, SMET 1420, SMET 1430, SMET 1440, SMET 1450) 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. (Prerequisite(s): SMET 1410, SMET 1415, SMET 1420, SMET 1430, SMET 1440, SMET 1450) 4C/2/2/0

SMET 1540 Power Machine Operation
Covers the fabrication of sheet metal items using the power shears, press brake, power rolls, punch press and spotwelders. (Prerequisite(s): SMET 1410, SMET 1415, SMET 1420, SMET 1430, SMET 1440, SMET 1450) 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. (Prerequisite(s): SMET 1410, SMET 1415, SMET 1420, SMET 1430, SMET 1440, SMET 1450) 3C/3/2/0

Sociology

SOCI 1710 Introduction to Sociology
This course introduces students to sociology: the systematic study of human interaction and society. Major theoretical perspectives and research methods of sociology will be examined. The primary goal is to create an awareness of, and appreciation for, the range of social and cultural variations throughout the United States and worldwide, stressing characteristics shared by all people. Readings and social science examples will be drawn from cultures around the United States, 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. (Prerequisite(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. (Prerequisite(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. (Prerequisite(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. (Prerequisite(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. (Prerequisite(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. (Prerequisite(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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 7) 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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 7) 3C/3/0/0

SOCI 1774 Introduction to Corrections
This is an introductory course designed to provide students with an overview of the problems and ethical dilemmas that face America’s correctional system. The institution of corrections is not only a study of our prison system but is, in fact, the study of a complex network of societal relationships and institutions. This course examines the history, present, and future of U.S. corrections. The role of penitentiaries, prisons, jails, and grass roots organizations is explored along with the concepts of punishment, rehabilitation, retribution, restoration and transformation. (Prerequisite(s): Grade of “C” or better in READ 0721 or appropriate assessment score) (MnTC: Goals 5 & 7) 3C/3/0/0

SOCI 1776 Probation, Parole and Alternative Sentencing
This course is designed to introduce students to the fields of probation and parole. We will examine a variety of community-based correctional practices and strive to understand the roles of individuals who work within community programming. Most importantly, we
Spanish

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<tr>
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<tbody>
<tr>
<td>SPAN 1710</td>
<td>Beginning Spanish 1</td>
<td>An introduction to Spanish based on real-life situations, as well as an introduction to various aspects of Spanish language. No previous knowledge of Spanish is necessary. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 5 &amp; 7) 4C/4/0/0</td>
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<tr>
<td>SPAN 1720</td>
<td>Beginning Spanish 2</td>
<td>A continuation of SPAN 1710. Emphasis is on extending skills in everyday spoken Spanish. Components of exercise physiology are included throughout. Must earn a grade of “C” or better to proceed. (Prerequisite(s): PSYC 1710 or SOCI 1710. READ 0721 with a grade of “C” or better or appropriate assessment score.) (MnTC: Goal 8) 5C/4/1/0</td>
</tr>
<tr>
<td>SPAN 1730</td>
<td>Intermediate Spanish 1</td>
<td>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. Must earn a grade of “C” or better to proceed. (Prerequisite(s): SPAN 1720 with a grade of “C” or better or Placement Exam or instructor approval) (MnTC: Goal 6 &amp; 8) 5C/4/1/0</td>
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<tr>
<td>SPAN 1740</td>
<td>Intermediate Spanish 2</td>
<td>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. Must earn a grade of “C” or better to proceed. (Prerequisite(s): SPAN 1730 with a grade of “C” or better or Placement Exam or instructor approval) (MnTC: Goals 6 &amp; 8) 5C/4/1/0</td>
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<tr>
<td>SPAN 1790</td>
<td>Spanish for the Workplace</td>
<td>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. This class may be offered for specific career industries such as the Hospitality or Healthcare industries. When this happens, the career industry will be specified in the title. No previous knowledge of Spanish is necessary. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goal 8) 3C/3/0/0</td>
</tr>
<tr>
<td>SPAN 1795</td>
<td>Special Topics in Spanish</td>
<td>This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal 8) Variable credits 1-6</td>
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Sport and Exercise Sciences

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<tbody>
<tr>
<td>PTRN 1410</td>
<td>Personal Training 1</td>
<td>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 Sport and Exercise Sciences program.) 5C/3/2/0</td>
</tr>
<tr>
<td>PTRN 1420</td>
<td>Personal Training 2</td>
<td>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) 5C/3/2/0</td>
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Supply Chain Logistics

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<tr>
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<tbody>
<tr>
<td>BSLM 1410</td>
<td>Transportation Management</td>
<td>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</td>
</tr>
<tr>
<td>BSLM 1510</td>
<td>Distribution Management</td>
<td>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</td>
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<tr>
<td>BSLM 2420</td>
<td>Supply Chain Management</td>
<td>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</td>
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</table>
BSLM 2450 Procurement Principles and Applications
The course covers a broad overview of the objectives of Procurement; its authority, responsibility, management function and expectations. Students learn how and why the procurement function has far-reaching effects on a company’s profit or loss. Procurement is a dynamic business function and is important in controlling costs in large dollar expenditures. The Procurement department deals with Production, Engineering, Marketing, Sales, Logistics, Stores, Inventory Control, Transportation, Quality Assurance and Finance. The primary objective of procurement 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 credits 1–3

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 credits 1–3

Surgical Technology/Sterile Processing

SURG 1405 Introduction to Surgical Technology
This course provides a broad study of the operative environment, professional roles, moral/legal/ethical responsibilities, and medical communications used in surgical technology. (Requires concurrent enrollment is SURG 1410 & SURG 1415) 1C/1/0/0

SURG 1410 Sterile Processing
The course will introduce various surgical instruments, the classification and use(s), including the process of cleaning, decontamination, disinfection, and sterilization of equipment and supplies used in the surgical services department. Distribution and management of supplies to all customer service areas is also addressed for health care settings. (Prerequisite(s): BIOL 1471, BIOL 1740, BIOL 2721; Co-requisite(s): SURG 1413 and BIOL 2722) 3C/2/1/0

SURG 1415 Surgical Microbiology
This course addresses natural and artificial body defense mechanisms and the methods by which infectious diseases are recognized, treated, transmitted, and prevented. Disinfection and sterilization are also included. Content covers the application of aseptic technique and various environmental controls. (Prerequisite(s): BIOL 1471, BIOL 1740, BIOL 2721; Co-requisite(s): SURG 1410 and BIOL 2722

SURG 2405 Pharmacology
Learners will review basic math skills and learn a framework of pharmacological principles in order to apply them safely in a surgical environment. These will include metric system, percentages, and proportions for medication calculations. Commonly used medication with surgical applications are reviewed in depth. These include antibiotics, diagnostic agents, diuretics, drugs that affect coagulation, ophthalmic agents, periproductive medications, anesthesia agents for both local and general anesthesia Specific topics include drug administration routes and methods, blood and fluid usage, drug interactions including malignant hyperthermia and allergic reactions. (Prerequisite(s): SURG 1405, 1410, 1415, and TEAS score of 60% or higher) 2C/2/0/0.

SURG 2410 Pathology & Procedure
This course reviews the pertinent anatomy and physiology related to the following surgical systems/specialties. General surgery, ob/gyn, orthopedics, ear nose throat (ENT), ophthalmic, neuro and spine, cardio-thoracic, peripheral vascular, urology, maxillofacial head neck, plastics, pediatrics, and robotics/laser. Conditions that warrant surgical correction are discussed in depth. Also introduced are common specialized instruments by type, function, and name. Relevant supplies are discussed specific to each surgical system. Common procedures in each of the surgical specialty areas are explained in depth; to include indication, anatomy involved, incision(s), patient positioning, prepping, draping, and equipment utilized. (Prerequisites: SURG 1405, 1410, 1415) 5C/4/1/0

SURG 2415 Operating Room Lab 1
Learners will practice the concepts and theories learned in 2410 Pathology and Procedures and 2405 Pharmacology. Basic skill sets will be put into practice for scrub gown and gloving (both open and closed), draping of the surgical patient, as well as set up appropriate instrumentation on back-table and mayo stand for general surgery abdominal cases. Focus will be on use of correct sterile technique, surgical consciousness, and communication by way of working within a team in the surgical environment. Learner will be able to practice passing instruments, load surgical blades and needles, and properly change contaminated gown and gloves. A focus will be made around labeling drugs properly that will be used in the sterile field. (Prerequisites: SURG 1405, 1410, 1415) 5C/0/5/0

SURG 2420 Operating Room Lab 2
Learners will directly build on skill sets learned in SURG 2415, as they bring in more complex procedures to their training, from the curriculum in SURG 2410, these are then practiced directly in the lab session. The procedures will require new skill sets in the areas of draping, specialty equipment, instruments, and team communication. (Prerequisites: SURG 1405, 1410, 1415) 5C/0/5/0

SURG 2425 Operating Room Clinical 1 & 2
Students are assigned to a pre-planned clinical facility and assist with surgical procedures within the operative setting under the personal supervision of a clinical preceptor. This clinical practicum is designed for the student to integrate knowledge and theory from previous classes specific to Surgical technology, to develop skill set specific to that of a practicing Surgical Technologist. Clinical assignments are based on a set of weekly clinical performance objectives that must be met prior to the completion of the semester. Objectives are detailed for each week and they are designed to progress the student along by building on skill sets and knowledge already acquired to move them into more advanced cases requiring new skills and knowledge with instruments, equipment, and case studies.

Students will participate in biweekly clinical conferences to debrief current learning and synthesize knowledge with practice. Students will also have an opportunity to meet with instructor staff to discuss any events that may have occurred while on clinical, such as personality conflicts, specific situations with staff or surgeons, or case specific questions they might have.

Also covered in the bi weekly conference are professional development topics, for resume building, interviewing skills and practice sessions, and the current trends in applying for a job as a Surgical Technologist. AST certification exam will be discussed and focused learning goals and techniques will be demonstrated for successful study of the AST exam. (Prerequisites: SURG 2405, 2410, 2415, 2420) 16C/0/16/0

Theatre and Drama

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 1716 Theatre Around the World
This course provides an introduction to the diverse theatrical styles and plays performed around the world. Students will explore a variety of theatre focusing on Eastern and Western cultures around the globe exploring the cultural, historical, social, religious, and linguistic significance of this work. Students will examine the aspects that go into creating the forms of theatre including, acting, design, and stagecraft. Students will explore these forms of theatre and their impact on theatre around the world today. (Prerequisite(s): READ
THTR 1725 Acting 1
This course provides students an Introduction to Acting. Students engage in physical and vocal exercises training the actor's voice and body. Students will also develop the skills to respond critically to theatrical performances. Students engage in vocal and physical warm-ups and exercises, read and analyze plays, use improvisation towards developing characters in scenes from a variety of plays. (Prerequisite(s): Grade of “C” or better in READ 0722 or appropriate assessment score) (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

THTR 1731 Theatre Performance Practicum
Students who are interested in pursuing active participation as a performer in a Saint Paul College theatrical production will be eligible for this course. Students will take an active role as a live performer within a college production. This course may be replaced in subsequent terms for a maximum of 4 credits. (Prerequisite(s): Instructor approval) (MnTC: Goal 6) 1C/0/1/0

THTR 1732 Technical Theatre Practicum
Students who are interested in pursuing active participation as a technical worker in a Saint Paul College theatrical production will be eligible for this course. Students will take an active role as a technical worker within a college production. This course may be replaced in subsequent terms for a maximum of 4 credits. (Prerequisite(s): Instructor approval) (MnTC: Goal 6) 1C/0/1/0

THTR 1740 Fundamentals of Playwriting – Playwriting 1
This course focuses on the skills necessary for writers who write for the stage rather than the page. Students work to develop an ability to create stage plots and dialogue. Through a series of writing and reading activities, exercises and assignments, students work to explore character, conflict and drama through their writing. Students also work through writing exercises to develop the skills to structure a play with a clear beginning, middle and end. Students are encouraged to develop their work and the course culminates in a reading of short plays. (Prerequisite(s): READ 0722 Reading 2 with a grade of “C" or better, or appropriate assessment score) (MnTC: Goal: 6) 3C/3/0/0

THTR 1790 Special Topics in Drama and Theatre
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goal: 6) Variable credits 1-6

THTR 2725 Acting 2
This course provides students continued study in acting skills. Students work to develop and exercise basic acting skills through practical application of the fundamental elements of the actor’s art and work. Students will become more familiar with the actor’s tools and a variety of acting techniques and the best ways to utilize them. Students engage in more detailed physical and vocal exercises training the actor’s voice and body. Students read and analyze plays and develop character analysis and script analysis skills. Through acting exercises, activities, development of acting techniques, and scene work, students will develop the skills required to create three-dimensional characters in scene work. (Prerequisite(s): THTR 1725 Acting 1 or instructor approval) (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

Welding Technology

WLDG 1401 Industrial Shop Practices 1
This core course covers all the required safety instruction for all the 1400 category welding processes and the related shop equipment used. Instruction on welding equipment set-up and parameter settings along with welding theory will be covered for all welding processes. Students will be able to identify and demonstrate proper safety practices and usage on shop and welding equipment. (Co-Requisite(s): WLDG 1400-1450 will be taken in succession within the same semester block) 2C/2/0/0

WLDG 1410 Welding Basics
This introductory course will cover shop safety practices, the theories and concepts necessary for an understanding of basic oxyacetylene 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): WLDG 1400-1450 will be taken in succession within the same semester block) 2C/0/2/0

WLDG 1420 SMAW: E6010
This course covers the introduction of the theories and concepts necessary for the SMAW process using the E6010 electrode in the various welding positions, according to current industry and AWS standards. Instruction on the use, care and safety practices of SMAW equipment will also be emphasized. (Co-Requisite(s): WLDG 1400-1450 will be taken in succession within the same semester block) 2C/0/2/0

WLDG 1430 SMAW: E7018
Covers the manipulative skills and procedures required to attain entry level proficiency of E7018 Shielded Metal Arc welds in all positions. Weld plate testing procedures will be offered allowing the student the opportunity to achieve qualification. (Co-Requisite(s): WLDG 1400-1450 will be taken in succession within the same semester block) 3C/0/3/0

WLDG 1440 GMAW Short Arc
Provides students with the opportunity to build proficiency in the GMAW (Gas Metal Arc Welding) process using the short arc transfer on mild steel. All positions will be covered. Students will be expected to work to industry and AWS standards for apprentice welders in the area of quality and efficiency. (Co-Requisite(s): WLDG 1400-1450 will be taken in succession within the same semester block) 2C/0/2/0

WLDG 1450 Intro to Blueprint/Measuring Devices
This course is designed to cover such fundamental principles of drawing interpretation as may be required by a layout welder and setup person. To accomplish this objective, basic lines and blueprint viewing functions are studied and projects are assigned to reinforce base knowledge. This course also covers the use of different measuring devices used in the welding trades. (Co-Requisite(s): WLDG 1400-1450 will be taken in succession within the same semester block) 3C/3/0/0

WLDG 1501 Industrial Shop Practices 2
This core course covers all the required safety instruction for all the 1500 category welding processes and the related shop equipment used. Instruction on welding equipment set-up and parameter settings along with welding theory will be covered for all welding processes. Students will be able to identify and demonstrate proper safety practices and usage on shop and welding equipment. (Prerequisite(s): Must complete 1st semester core group 1400-1450 prior to advancing to 2nd semester core group 1500-1540; Co-Requisite(s): WLDG 1500-1540 will be taken in succession within the same semester block) 2C/2/0/0

WLDG 1510 GMAW Spray and Pulse Spray
Provides students with the opportunity to build proficiency in the GMAW process using the spray and pulse spray transfers on 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 plate procedures will be offered allowing the student the opportunity to achieve qualification. (Prerequisite(s): Must complete 1st semester core group 1400-1450 prior to advancing to 2nd semester core group 1500-1540; Co-Requisite(s): WLDG 1500-1540 will be taken in succession within the same semester block) 3C/0/3/0

WLDG 1520 GMAW Core Wires
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 plate testing procedures will be stressed, allowing the student the opportunity to achieve qualification. (Prerequisite(s): Must complete 1st semester core group 1400-1450 prior to advancing to 2nd semester core group 1500-1540; Co-Requisite(s): WLDG 1500-1540 will be taken in succession within the same semester block) 3C/0/3/0

WLDG 1530 Intro to GTAW
Provides students with the opportunity to build proficiency in the GTAW process on mild steel in all positions. The student will be expected to work to industry and AWS standards for apprentice welders in the area of quality and efficiency. (Prerequisite(s): Must complete 1st semester core group 1400-1450 prior to advancing to 2nd semester core group 1500-1540; Co-Requisite(s): WLDG 1500-1540 will be taken in succession within the same semester block) 3C/0/3/0

WLDG 1540 Blueprint Welding Symbols/Math/Welder Qualification
This course will focus on the knowledge of welding symbols as specified by the American Welding Society, (AWS). Welding inspection and welder qualification procedures will also be covered. (Prerequisite(s): Must complete 1st semester core group 1400-1450 prior to advancing to 2nd semester core group 1500-1540; Co-Requisite(s): WLDG 1500-1540 will be taken in succession within the same semester block) 3C/3/0/0

WLDG 2401 Industrial Shop Practices 3
This core course covers all the required safety instruction for all the 2400 category welding processes and the related shop equipment used. Instruction on welding equipment set-up and parameter settings along with welding theory will be covered for all welding processes. Students will be able to identify and demonstrate proper safety practices and usage on shop and welding equipment. (Prerequisite(s): Must complete 1st & 2nd semester core groups 1400-1540 prior to advancing to 3rd semester core group 2400-2440; Co-Requisite(s): WLDG 2400-2440 will be taken in succession within the same semester block) 2C/2/0/0

WLDG 2410 GMAW Aluminum and SST
Provides students with the opportunity to build proficiency in the GMAW process using both Aluminum and Stainless Steel. The introduction of the Aluminum and Stainless numbering system will be covered. Students will be expected to perform to industry and AWS standards as required for apprentice welders in the areas of quality and efficiency. (Prerequisite(s): Must complete 1st & 2nd semester core groups 1400-1540 prior to advancing to 3rd semester core group 2400-2440; Co-Requisite(s): WLDG 2400-2440 will be taken in succession within the same semester block) 2C/0/2/0
WLDG 2420 GTAW Aluminum and SST
Provides students with the opportunity to build proficiency in the GTAW process using aluminum & stainless steel in various weld positions. Aluminum & Stainless numbering systems will also be reviewed. Students will be expected to perform to industry and AWS standards as required for apprentice welders in the areas of quality and efficiency. (Prerequisite(s): Must complete 1st & 2nd semester core groups 1400-1540 prior to advancing to 3rd semester core group 2400-2440; Co-Requisite(s): WLDG 2400-2440 will be taken in succession within the same semester block) 4C/0/4/0

WLDG 2430 Grinding and 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 and pharmaceutical standards. (Prerequisite(s): Must complete 1st & 2nd semester core groups 1400-1540 prior to advancing to 3rd semester core group 2400-2440; Co-Requisite(s): WLDG 2400-2440 will be taken in succession within the same semester block) 2C/1/1/0

WLDG 2441 Intro to Robotic Welding and Fabrication
Designed as an introduction to robotic welding as it applies to manufacturing. Students will be given specified projects in order to develop fabrication techniques used in industry. (Prerequisite(s): Must complete 1st & 2nd semester core groups 1400-1540 prior to advancing to 3rd semester core group 2400-2440; Co-Requisite(s): WLDG 2400-2440 will be taken in succession within the same semester block) 2C/1/1/0

WLDG 2500 2D CAD
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 2D CAD blueprint drafting. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 2C/2/0/0

WLDG 2510 Safety
Designed to give students safety and operational instruction on all shop equipment required in the 2500 series certificate. Students will demonstrate correct safety procedures required in all the automated fabrication processes. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 1C/1/0/0

WLDG 2520 CNC Plasma
This course is designed to expose the student to CNC functions utilizing M & G coding Editing and perform CNC programing functions. Students will use proper safety equipment set up procedures and perform CNC operations according to industry standards. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 2C/1/1/0

WLDG 2530 Press Brake Operations
Designed to build proficiency in sheet metal fabrication the student will be expected to work within industry standards using math formulas, bend allowances and measuring instruments as required for apprentices. Students will program the CNC press to achieve correct bending outcomes to industry requirements. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 3C/1/2/0

WLDG 2540 Robotic Welding Operations
Designed to build proficiency in fabrication skills beyond the previous diploma courses. The student will be expected to work within Industry standards as for apprentice fabricators using robotic programing, set up procedures, trouble shooting and repair of robotic functions. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 3C/1/2/0

WLDG 2550 Industrial Equipment
Designed to build proficiency in the metal fabricating field, the student will be expected to perform within industry standards for apprentice welders/fabricators. The student will be introduced to lifting devices which are encountered in live work situations, using fork truck and overhead cranes. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 2C/1/1/0

WLDG 2560 Layout Practices
Course 2560 will allow the student to demonstrate knowledge of manufacturing layout and planning through designated projects. These projects will require the student to use advanced techniques in design, layout and fabrication processes used in industry. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 4C/1/3/0

WLDG 2570 Robotic Welding Capstone
Through this capstone offering, students will have the opportunity to meet specified credit requirements utilizing shop experiences approved by the overseeing Instructor. (Prerequisite(s): Must complete 1st, 2nd & 3rd semester core groups 1400-2440 or receive instructor approval prior to advancing to 4th semester Advanced Certificate 2500-2570; Co-Requisite(s): WLDG 2500-2570 will be taken in succession within the same semester block) 1C/0/1/0

WLDG 2590 Welding 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 credits 1-4

Women’s and Gender Studies

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. (Prerequisite(s): READ 0721 with a grade of “C” or better or appropriate assessment score) (MnTC: Goals 5 & 9) 3C/3/0/0

WGST 1790 Special Topics in Women’s and Gender Studies
This course is designed to present additional or unique material and learning experiences within a specified discipline. The course will be based on student need, flexibility, and may be designed to meet various transfer and pre-major course requirements. Please see a current Course Schedule for complete course details. (MnTC: Goals 5 & 9) Variable credits 1-6
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Gerold, Michael
Director, Student Rights & Responsibilities
BA, Hamline University

Hassan, Mohamed
Pathway Advisor
BA, St. Cloud State University
MS, St. Cloud State University

Holl, Emily
Director, Academic Support
BA, University of Massachusetts
MA, Columbia University
MSW, Hunter College, City University of New York

Huston, Jennifer
Director, Workforce Training & Continuing Education
BS, Brown College

Johnson, Adam
Financial Aid Director
BA, Gustavus Adolphus College

Johnson, Scott
Pathway Advisor
BA, St. Olaf College
MA, Luther Seminary

Kittelsson, Laura
Assistant Registrar
BA, University of Wisconsin, Eau Claire
MS, University of Wisconsin, Stout

Lorendo, Thomas
One Stop Advisor
AAS, Minneapolis Community & Technical College
BS, Minnesota State University, Mankato
Academic/Student Support, continued

Miller, Gabriela
Recruiter
BA, Concordia College

Mogren, David
Recruiter
AA, Century College
BS, University of Wisconsin, River Falls

Pickens-Opoku, Alicia
Director, One Stop Services
BA, Hamline University
MA, Ball State University

Pierre, Kathryn
Pathway Advisor
AA, Century College
BA, University of Minnesota
MA, University of St. Thomas

Reid, Greg
Financial Aid
AAS, Inver Hills Community College
BA, Metropolitan State University

Rizvi, Bushra
Pathway Advisor
BS, Kinnaird College for Women
MS, University of Karachi

Robinson, Candace
Pathway Advisor
BHS, Metropolitan State University

Roeller, Keri
One Stop Advisor
BA, Metropolitan State University

Saul, Sheryl
Director, Career Placement and Internships
Diploma, Alexandria Technical & Community College
BA, Metropolitan State University
MA, Saint Mary's University of Minnesota

Sedlacek, Morgan
Coordinator, Gender Based Violence Prevention and Intervention
BA, University of Iowa

Thornton, Colleen
Financial Aid
AA, Normandale Community College

Trad, Kari
Navigator, TRIO
AA, Century College
BA, College of St. Catherine
MA, University of Minnesota

Vang, Gao
PSEO Coordinator
BS, University of Wisconsin-Oshkosh
MS, University of Wisconsin-Milwaukee

Vang, Mary
Director, TRIO
BS, University of Wisconsin, River Falls
MPNA, Metropolitan State University

Xiong, Nee Na
Director, Access & Disability Resources
BA, St. Catherine University

Yang, Mee
Recruiter
BA, St. Olaf College

Yang-Moua, Bao
Financial Aid
BA, Metropolitan State University
MA, Walden University

Faculty

Andresen, James
Political Science
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MA, Minnesota State University, Mankato
PhD, Arizona State University

Anglin, Jennifer
Medical Office Careers
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MA, College of St. Scholastica
MS, College of St. Scholastica

Babina, Lyubov
Esthetics
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MS, Lvov State Medical University

Bansal, Anita
Biology
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MS, Meerut University
MS, University of Illinois, Urbana-Champaign

Bohrer, Nick
Massage Therapy
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BS, University of Minnesota

Bommarito, Aaron
Art
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MFA, Arizona State University

Bonnett, Justin
English
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MA, University of St. Thomas

Briski, Michelle
Medical Laboratory Technician
BA, Hamline University
MEd, University of Minnesota

Buhain, Joseph
Respiratory Therapy
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AA, University of Central Florida
BA, Baker College
MBA, Aspen University
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Byrne, Garrett
Machine Tool
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PhD, University of South Carolina

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Sheet Metal
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MA, University of St. Thomas

D’Meier, Kristinea
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MS, Minnesota State University, Mankato

Dale, Kelly
Medical Office Careers
BA, College of St. Scholastica

De La Cruz, Angela
Spanish Language
BA, Universidad de Costa Rica
MA, University of Northern Iowa

Duthie, Kasandra
English
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MFA, Minnesota State University, Mankato

Gabrawy, Mariann
Biology
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MA, St. Cloud State University

Gage, Patti
Reading
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MAT, School for International Training

Gibbons, Nora
Psychology
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MA, University of Missouri, St. Louis
PhD, University of Missouri, St. Louis

Gielissen, James
Biology
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MS, University of Minnesota

Gill, Linda
Interpreter Training Program
Certificate, Saint Paul College—A Community & Technical College
BS, University of Minnesota

Goftarsh, Sasha
Mathematics
BA, A. I. Herzen State Pedagogical University
MA, A. I. Herzen State Pedagogical University

Haider, Julie
Philosophy
BA, Valparaiso University
MA, Marquette University
MA, University of St. Thomas

Hanes-Goodlander, Lisa
Counselor
MA, Wright State University
MS, Wright State University
PhD, University of Minnesota

Hankel, Todd
Welding
Diploma, Hennepin Technical College

Hazen, Stephanie
Psychology
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MA, Boston College

Hillstead, Thomas
Cabinetmaking
Diploma, Saint Paul College—A Community & Technical College

Hudson, Rachel
Biology
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Hulander, Kelly
English
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MA, University of Minnesota
PhD, University of Minnesota

Ignatjeva, Anna
Communication
BA, University of Latvia
MS, Minnesota State University, Mankato

Jacobs, Aaron
Art
BA, Minnesota State University, Moorhead
MFA, New York Academy of Art

Johnson, Carla Elaine
English
BA, Randolph College
BA, University of Maryland, College Park
MA, State University of New York, Albany
MA, University of Minnesota
PhD, Ohio State University
Faculty, continued

Johnson, Rania
American Sign Language
BA, Metropolitan University
MEd, University of Minnesota

Jones, Sean
Culinary Arts
AAS, Saint Paul College—A Community & Technical College

Kerestech, Tatiana
Practical Nursing
AAS, Century College
BS, Metropolitan State University

Kokesh, Hannah
Pharmacy Technician
BA, Augsburg College

Kortenhof, Kurt
History
BA, University of Wisconsin, Eau Claire
MA, University of Wisconsin, Eau Claire

Kpanaku, Zubah
Chemistry
BS, Cuttington Univ. College – Liberia
MS, General Chemistry, Ohio University
MS, Analytical Chemistry, Ohio University
MS, Chemical Technology/Technician, Purdue University

Krug, Manfred
Culinary Arts
Diploma, Saint Paul College—A Community & Technical College
BS, University of Wisconsin, Stout
AOS, Culinary Institute of America

Lawson, Peter
Economics
BS, Accounting, University of Wisconsin, Superior
BS, Economics, University of Wisconsin, Superior
MS, Utah State University

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English
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English
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Hospitality Management
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Biology
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PhD, Osmania University

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PhD, University of Minnesota

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Mathematics
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MEd, University of LaVerne
EdD, Saint Mary’s University

Nordahl, Scott
Machine Tool Processes
Diploma, Austin Technical College

O’Halloran, James
Accounting
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MBT, University of Minnesota

Olsen-Sartain, Jennie
Reading
BS, University of Minnesota
MA, College of St. Catherine

Ouatarra, Anna
Business
BA, University of Wisconsin, LaCrosse
MA, Saint Mary’s University

Paulnock, Daniel
Communication
BS, Emerson College
MS, Emerson College

Paulson, Caleb
Welding
Diploma, Saint Paul College – A Community and Technical College

Pearson, Darren
Digital Graphics
BSEE, University of North Dakota
MS, University of Minnesota
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**Pearson, Joel**  
Truck Technician  
Diploma, Dakota County Technical College

**Pueringer, Kristin**  
Mathematics  
BS, St. Olaf College  
MS, University of Minnesota

**Purcell, John**  
Automotive Service Technician  
Diploma, Dakota County Technical College  
AA, Inver Hills Community College

**Purcell, Kirstin**  
Biology  
BA, University of Minnesota  
ME, University of Minnesota  
MCLS, University of Maryland

**Rafferty, Patrick**  
Truck Technician  
Diploma, Saint Paul College—A Community & Technical College

**Rawlings, Mark**  
Computer & Information System Security  
BS, St. Cloud State University  
MEd, St. Mary’s University

**Reigstad, Shelby**  
Communication  
BS, St. Cloud State University  
MA, Bethel College

**Roethke, Leigh**  
Art  
BFA, Savannah College of Art & Design  
MA, University of Minnesota

**Ross, Kathy**  
Respiratory Care  
AAS, Pima County Community College

**Russell, Judy**  
Respiratory Care Practitioner  
AAS, Saint Paul College—A Community & Technical College

**Sartain, Jeremy**  
Massage Therapy  
BA, University of Minnesota, Duluth

**Sartain, Nathan**  
Culinary Arts  
Diploma, Western Culinary Institute

**Schaus, George**  
Electrical Technology  
Diploma, Saint Paul College - A Community & Technical College

**Schlueter, John**  
English  
BA, Loras College  
MA, Loyola University  
PhD, Loyola University

**Schmitz, Lisa**  
Mathematics Psychology  
BS, University of Wisconsin, River Falls  
MS, University of Minnesota  
MA, University of St. Thomas

**Schroeder, Nicole**  
Medical Laboratory Technology  
BS, University of Wisconsin, LaCrosse

**Schumacher, Pamela**  
Engineering  
BS, Texas A & M University  
MS, Texas A & M University

**Selton, Julie**  
Electrical Technology  
AA, Anoka Technical College

**Senger, Susan**  
Business  
BA, College of Saint Scholastica  
MA, College of Saint Scholastica

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AA, Saint Paul College—A Community & Technical College  
BS, University of Wisconsin, Stout

**Seymour, Joy**  
Practical Nursing  
AA, Saint Paul College—A Community & Technical College  
AS, Saint Paul College—A Community & Technical College  
BS, Metropolitan State University  
MS, Western Governors University

**Shah, Avani**  
Mathematics  
BS, Gujarat University  
BS, Gujarat University  
BE, Gujarat University  
MBA, University of Phoenix  
MS, University of Minnesota

**Shariff, Ayesha**  
History  
BA, North Central College  
MA, University of Wisconsin, Madison  
PhD, University of Wisconsin, Madison

**Sheaffer, Warren**  
Computer Careers  
BS, University of Pittsburgh  
MBA, University of Pittsburgh  
MST, Massachusetts Institute of Technology

**Smith, Allen**  
Machine Tool Processes  
Diploma, Wisconsin Indianhead Technical College  
BS, University of Wisconsin Stout

**Smith-Fields, Marcie**  
Cosmetology  
AA, Globe College of Business  
BS, Rasmussen College
Faculty, continued

Starkey, Penny
Chemistry
BS, University of St. Thomas
PhD, University of Minnesota

Stueve, Mary
Biology
BS, University of Minnesota
MS, University of Minnesota

Su, Ba
Mathematics
BS, University of Wisconsin, River Falls
BS, Metropolitan State University
MS, Iowa State University

Sundlie, Jolene
Sociology
BA, Minnesota State University, Moorhead
MS, North Dakota State University

Swartwood, Jason
Philosophy & Humanities
BA, College of William and Mary
MA, University of Minnesota
PhD, University of Minnesota

Tarrell-Florey, Amy
English for Speakers of Other Languages
BA, Washington University in St. Louis
MA, University of Minnesota

Taylor, Natalya
Mathematics
BA, Russian A.I. Herzen State Pedagogical University
MA, Russian A.I. Herzen State Pedagogical University

Taylor, Susan
English
BA, California State University, Los Angeles
MFA, University of Minnesota

Tiffany, Chelsea
Physics
BA, Wellesley College
MS, University of Minnesota

Travers, Mindy
Business
AAS, Saint Paul College—A Community & Technical College
BS, Saint Mary’s University of Minnesota
MA, Hamline University

Trego, Shannon
Geography
BA, University of Wisconsin, Madison
MA, University of North Carolina, Chapel Hill

Tri, Ben
Librarian
BA, University of St. Thomas
MS, University of Wisconsin, Milwaukee
MPNA, Metropolitan State University

Tsegaw, Yewondwossen
Practical Nursing
Diploma, Saint Paul College—A Community & Technical College
BS, Metropolitan State University
MSN, Walden University

Vainshtein, Alli
Business Technology Careers
BS, University of Phoenix
MBA, University of Phoenix

VanderWaal Mills, Kristyn
Biology
BS, University of Minnesota
PhD, University of Minnesota

Viertel, Viki
Surgical Technician
BS, Saint Mary’s University of Minnesota
MS, Kaplan University

Virnig, Heather
American Sign Language
BA, Gallaudet University
MS, McDaniel College

Vorderbruggen, David
Automotive Service Technician
Diploma, Saint Paul College—A Community & Technical College

Weikle, Dean
Electrical Technology
Diploma, Minneapolis Community & Technical College

Weldearegay, Biniam
Practical Nursing
AS, Century College
BS, Minnesota State University, Mankato

Wheeler, Jody
English
AA, Ridgewater Community College
BA, Bemidji State University
MA, St. Cloud State University

Wolfson, Inna
English for Speakers of Other Languages
BA, Simferopol State University
MA, Hamline University

Yernberg, Jacob
Automotive Service Technician
Diploma, Wyoming Technical Institute

Zimmerman, Maggie
Earth Science
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MS, University of Illinois, Chicago
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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) or 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
Visitor parking is available in any open, undesignated space in the Parking Ramp or Lot B, C, D or E. Enter parking lot via Marshall Avenue.

For the most up-to-date information about parking and fees, go to the College website: saintpaul.edu/parking
Parking Policy
It is mandatory for all motor vehicles parked on the Saint Paul College campus to use the controlled parking access system. Visitors may park anywhere in the lots and ramp except for marked reserved spaces. Vehicles parked in handicapped parking spaces require a valid State-Issued Handicapped Permit. 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.

Motorcycle Parking
Motorcycle parking is available in the designated parking areas by the Kellogg Boulevard and Marshall Avenue entrances. Visitors with motorcycles can park in either the upper or lower lot designated motorcycle parking area; however, visitors must use the Marshall Avenue entrance and then exit at Marshall Avenue by paying the hourly rate when leaving. The cement motorcycle parking areas are located to the left of the Kellogg Boulevard entrance in the lower lot and in the upper lots at the east end of Lot B.

No Parking Zones
- Any restricted parking space without a proper parking tag.
- Any handicapped space without a legally displayed sticker or license plate.
- Fire lanes. This includes leaving room for a minimum of two vehicles to pass at the end of each row.
- In 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.

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 Public Safety 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 the Saint Paul College campus use the parking access system to go in and out of the parking lot.