PINE TECHNICAL & COMMUNITY COLLEGE CATALOG  
2019-2020

In accordance with requirements set forth in the American Disabilities Act, this document is available in alternative formats to individuals with disabilities by calling 800-521-7463 or (TTY) 320-629-1030.

Pine Technical & Community College is an affirmative action, equal opportunity employer and educator.

The Catalog is periodically updated. For the most current version, please refer to our website: www.pine.edu
“The demand for our graduates has probably not ever been higher. Nothing makes us happier than seeing students take the skills they learned here and get recruited by multiple companies.”

Great Choices

The labor market is tighter than it has been in decades. Making the choice to take advantage of the opportunity is a critical one. At Pine we are focused on increasing the higher education attainment rate in our region and helping those that make the choice to get great skills. We have started new programs, expanded pathways within existing programs, and are providing more scholarship funding support this year than ever before. Our college continues to grow as a result of these investments and because more students than ever see the opportunities that await those completing programs here.

The Pine legacy of student commitment is a special one and we continue to maintain our focus on the success of each student and their educational journey. Our unique size allows us to personally connect with individual students and their unique stories.

I invite you to come see for yourself and find out why now, more than ever before, people are making the choice to realize their dreams at Pine.

All the best,

Joseph L. Mulford
President
Pine Technical and Community College
Catalog 2019-2020

All information in this document is accurate at the time of printing. Policies, procedures and practices are continuously reviewed and revised and may change throughout the academic year. Current Pine Technical and Community College policies can be found at www.pine.edu/about/public-information-and-policies/campus-policies/

Pine Technical and Community College has a long history of providing quality education to the Pine County community and beyond since 1965. Pine Technical and Community College provides opportunities and resources for learning and offers services that enhance individuals’ abilities.

Minnesota State

Office of the General Counsel

It is our intention to provide resources relevant to the academic, extracurricular, and social lives of students. Every effort has been made to ensure the accuracy of the material contained within this catalog as of the date of publication. However, all policies, procedures, academic schedules, program information, and fees are subject to change at any time by appropriate action of the faculty, the college administration, the Minnesota State Colleges and Universities Board of Trustees, or the Minnesota Legislature without prior notification.

The provisions of this catalog do not constitute a contract between the student and the college. The information in this catalog is for use as an academic planning tool and is subject to change at any time. Upon publication of this catalog, all previous issues are revoked.

Student Responsibility for Catalog Information

Each student is responsible for compliance with the information appearing in this catalog. Failure to read the regulations and policies will not be considered an excuse for noncompliance.

Pine Technical and Community 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, with regard to public assistance, sexual orientation, gender identity, or gender expression. In addition, discrimination in employment based on familial status or membership or activity in a local commission as defined by law is prohibited.

Harassment 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 familial status is prohibited.

Harassment may occur in a variety of relationships, including faculty and student, supervisor and employee, student and student, staff and student, employee and employee, and other relationships with persons having business at, or visiting, the educational or working environment.

This document is available in alternative formats to individuals with disabilities by calling Accessibility and Accommodation Services at 800-521-7463 or MN Relay 711.

Rights & Protections Provided by the American Disabilities Act

Pine Technical and Community College does not discriminate on the basis of disability in the admission or access to, or treatment or employment in its programs or activities. The Office of Accessibility and Accommodation Services coordinates compliance with the nondiscrimination requirements contained in section 35.107 of the Department of Justice Regulations. Information concerning the provision of the Americans with Disabilities Act, and the rights provided thereunder, are available from the Office of Accessibility and Accommodation Services.

Contact Information:
Jen Rancour
Student Success Coordinator
320-629-5174 or 800-521-7463
MN Relay 711
Email: Jen.Rancour@pine.edu

Degrees Offered

Associate of Arts

An Associate of Arts (AA) degree may be awarded upon successful completion of a 60 credit program in the liberal arts and sciences curriculum designed to constitute the first two years of a baccalaureate degree. An AA degree requires the completion of at least 40 credits of general education curriculum that fulfills the Minnesota Transfer Curriculum goal areas.

Associate of Science Degree

An Associate of Science (AS) degree may be awarded upon successful completion of a 60 credit program in a designated field or area which transfers to a baccalaureate major in a related scientific, technological, or other non-liberal arts professional field. An AS degree must have one or
more articulation agreement(s) between the institution awarding the AS degree and the institution awarding a related baccalaureate degree. An AS degree shall include a minimum of 30 semester credits in general education selected from at least six of the ten goal areas of the Minnesota Transfer Curriculum. An AS degree may also be designed to prepare students for employment.

**Associate of Applied Science Degree**

An Associate of Applied Science (AAS) degree may be awarded upon successful completion of a 60 to 72 credit program. An AAS degree is intended to prepare students for employment or may be designed to transfer to a related baccalaureate major. An AAS degree requires a minimum of 15 credits selected from at least three of the ten goal areas. At least 30 credits must be in the academic program's occupational or technical field of preparation. General education courses shall be selected from at least three of the ten goal areas of the Minnesota Transfer Curriculum.

**Diploma**

A diploma may be awarded upon successful completion of a 31 to 72 credit program. A diploma is intended to provide students with employment skills.

**Certificate**

A certificate may be awarded upon successful completion of a 9 to 30 credit specialized program of study. An undergraduate certificate less than 9 or more than 30 credits in length may be approved when the academic program prepares an individual for employment and the length or the designation as a certificate is (1) required by an employer, a licensing body or other regulatory agency, accrediting association, or board, or (2) based on a formal task analysis conducted within the previous three years and the results endorsed by an advisory committee.

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### Academic Calendar

#### FALL SEMESTER 2019

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<tbody>
<tr>
<td>S M T W Th F S</td>
</tr>
<tr>
<td>22 Jump Start</td>
</tr>
<tr>
<td>26 Fall semester begins</td>
</tr>
<tr>
<td>31 No classes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sept. 2019</th>
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<tbody>
<tr>
<td>S M T W Th F S</td>
</tr>
<tr>
<td>2 Labor Day Holiday</td>
</tr>
<tr>
<td>7 First Saturday class</td>
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<tr>
<th>Oct. 2019</th>
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<tbody>
<tr>
<td>S M T W Th F S</td>
</tr>
<tr>
<td>7-11 Advising Week - Students meet with advisors for Spring class selection</td>
</tr>
<tr>
<td>14 Continuing student and veterans registration for Spring and Summer 2020 begins</td>
</tr>
<tr>
<td>16 New student registration for Spring and Summer 2020 begins</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Nov. 2019</th>
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</thead>
<tbody>
<tr>
<td>S M T W Th F S</td>
</tr>
<tr>
<td>11 Veterans Day observed</td>
</tr>
<tr>
<td>28 Thanksgiving Holiday - No classes</td>
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<table>
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<tr>
<th>Dec. 2019</th>
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<tbody>
<tr>
<td>S M T W Th F S</td>
</tr>
<tr>
<td>16-20 Final Exam Week</td>
</tr>
<tr>
<td>20 Last day of classes</td>
</tr>
<tr>
<td>21 Final Exams - Saturday classes</td>
</tr>
<tr>
<td>23-31 Semester Break - No classes</td>
</tr>
<tr>
<td>25 Holiday</td>
</tr>
<tr>
<td>Campus closed - No classes</td>
</tr>
</tbody>
</table>
### SPRING SEMESTER 2020

| JAN. 2020 |  
|-----------|---
| S M T W Th F S |   
| 1 2 3 4 5 6 7 8 | New Year's Day Holiday - Campus closed  
| 9 10 11 | No classes  
| 12 13 14 15 16 17 18 | 2-10 Semester Break - No classes  
| 19 20 21 22 23 24 25 | 9 Jump Start  
| 26 27 28 29 30 31 | 13 Spring Semester Begins  
| 1 2 3 4 | 18 First Saturday Class  
| 5 6 7 8 9 10 11 | 20 Martin L. King, Jr. Holiday  
| 12 13 14 15 16 17 18 | Campus closed - No classes  

| FEB. 2020 |  
|-----------|---
| S M T W Th F S |   
| 1 2 3 4 5 6 7 8 | 4 No Evening Classes after 6 p.m.  
| 9 10 11 | Precinct Caucus Day  
| 12 13 14 15 16 17 18 | 17 Presidents’ Day  
| 19 20 21 22 23 24 25 | Campus closed - No classes  
| 26 27 28 29 30 31 |   

| MAR. 2020 |  
|-----------|---
| S M T W Th F S |   
| 1 2 3 4 5 6 7 8 | 2-6 Advising Week - Students meet with advisors for fall class selection  
| 9 10 11 | 7 Mid-Term Ends - Saturday classes held  
| 12 13 14 15 16 17 18 | 3-13 Spring Break - No classes  
| 19 20 21 22 23 24 25 | 14 No Saturday classes  
| 26 27 28 29 30 | 16 Continuing student and veterans registration for Fall 2020 begins  
| 31 | 18 New student registration for Fall 2020 begins  

| APR. 2020 |  
|-----------|---
| S M T W Th F S |   
| 1 2 3 4 5 6 7 8 | 3 Campus Conversation Day  
| 9 10 11 | No classes  
| 12 13 14 15 16 17 18 | 11 No Saturday classes  
| 19 20 21 22 23 24 25 |   
| 26 27 28 29 30 |   

| MAY 2020 |  
|-----------|---
| S M T W Th F S |   
| 1 2 3 4 5 6 7 8 | 9 Final Exams - Saturday classes  
| 9 10 11 12 13 14 15 16 | Last Saturday class  
| 17 18 19 20 21 22 23 24 | 11-14 Final Exam Week  
| 25 26 27 28 29 30 | 14 Last day of classes  
| 31 | 15 Commencement - No classes  

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### College Information

**Pine Technical and Community College Mission, Vision and Values**

**Mission Statement**

Known for innovation and contributions to strengthen communities, we make college possible for those starting out or starting over. Whether a student seeks a career program, new skills or general education transferrable to another college or community, Pine Technical & Community College is an excellent choice.

**PTCC Vision**

In 2027, the people of East Central Minnesota will first turn to Pine Technical & Community College when they want career education, new skills or general education. More than 1200 FYE will be enrolled in programs; more than 4000 will benefit from training experiences; and the region will enjoy a dynamic, vibrant cultural resource. The heart of the college will be in up-to-date, technology-driven facilities, complemented by satellite sites and online capabilities.

**PTCC Values**

- Student-focused
- Innovative
- Inclusive
- Transparent
- Respectful
- Passionate

**Diversity** – the combined strength of the abilities, cultures/ethnicities, experiences, genders, religions, beliefs and talents each of us brings to Pine Technical & Community College. The concept of diversity is about understanding each other and moving beyond simple tolerance to embracing and celebrating the rich dimensions of diversity contained within each individual.

**Inclusion** embraces all dimensions of the human experience, from our differences to our similarities, and creates a climate where all feel valued and appreciated, where there is substantive interaction among all.
Accreditation

Pine Technical and Community College is accredited by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools located at:

The Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, Illinois 60604-1413
Phone: 800.621.7440/312.263.0456. Fax: 312.263.7462
info@hlcommission.org

The college was originally accredited in 1977 and has been consistently accredited since that time. Our most recent visit of the NCA evaluation team was in 2018-2019, during which the college maintained a 10-year accreditation status through the Open Pathways accreditation process, which is the maximum designation awarded.

Pine Technical and Community College Foundation

The Pine Technical and Community College Foundation is a nonprofit 501C-3 organization formed to solicit, receive and administer gifts, grants, bequests and donations. It provides a tax-exempt vehicle for people to donate to the college and thereby provide educational opportunities for Pine Technical and Community College students. Private and corporate contributions are critical to fulfilling the college’s mission. Persons or groups desiring to contribute to the Foundation may contact the Foundation Director.

The Foundation was created in 1999 to help the college expand and meet the growing educational and cultural needs of residents and businesses in the Pine area. The Foundation strives to enhance the college’s standing as the most important source of postsecondary education and training and continuing education in the region and works with PTCC to expand the relationships it has forged with businesses and the community. The annual Bridging the Dream campaign offers you a share in the success of this important institution. By making a gift to the college, you are helping yourself and your community!

Foundation Mission

The Pine Technical and Community College Foundation is a partner to the college in providing leadership in education in the region. The Foundation will become a collaborator in building programs, services, and facilities that benefit students, faculty, business and industry and the community. The Foundation will creatively assist and collaborate with college faculty, staff, and administration to enhance college life and the college’s place in the community.

Foundation Vision

The Pine Technical and Community College Foundation envisions expanded opportunities for students at the College and for those who wish to become students. The Foundation will involve key people at the College and in the region to develop a long-term endowment and programs to encourage and motivate students and faculty. The Foundation will facilitate, through the College, the economic development of the area and improve the region’s ability to retain qualified people in the workforce.

Foundation Values

- Students first
- Personal and professional development for staff
- Partnerships with business, industry, agriculture and units of local government

Business and Industry

Pine Innovation Center

Pine Technical and Community College is the home to the Pine Innovation Business Incubator. The incubator supports high-tech and light manufacturing entrepreneurs in the community, and at the same time, give PTCC students access to internships and practical experience in cutting-edge high-tech industry. PTCC and a body of experts from the region provide consulting services, technical expertise, product evaluation, assistance with marketing and business planning, and much more to start-ups and growing businesses choosing to reside in the incubator while putting down roots.

The Pine Innovation Business Incubator is used to house light manufacturing and technology-based businesses working toward producing innovative products or services. Recently, EZ Electrical System Solutions, LLC (https://ez-ess.com) participated in the incubation program and developed new-to-the world electrical switch and outlet boxes. The facility is designed to house one to three start-up companies simultaneously, as well as comfortable meeting spaces. For more information, call Wendy Walberg, Dean of Continuing Education and Customized Training, 320-629-5146.
Continuing Education and Customized Training

The Pine Technical and Community College Continuing Education department offers a broad range of courses designed for an individual’s professional growth and development, while the Customized Training department provides education and training tailored to businesses’ specific needs. With changing technologies and changing markets, it is more important than ever to invest in an organization’s most important resource – its people. Together, the PTCC Continuing Education and Customized Training (CECT) departments provides quality workforce training and development to help grow and prosper the Pine Area.

About Continuing Education

Pine Technical and Community College’s Continuing Education department serves as the major regional provider of skill-based, short-term courses. Courses are conveniently offered during the day, evening and on weekends. Courses are open-enrollment and cater to a foreseen need such as new technology. Many courses are designed to meet an occupational licensing or legal requirement. Since class sizes are smaller, students receive more individual attention and learn more. Courses are shorter in duration than college credit classes and are delivered to meet the needs of the participant.

About Customized Training

“Training has become a strategic investment – not just a cost to be budgeted.” - American Society of Training and Development

Through innovative assessment, delivery and evaluation, Pine Technical and Community College is able to assist organizations with training, plan development consultation and implementation. Today’s workplace is inundated with change as new technologies, processes and equipment emerge every day. To keep up with all these changes, an organization’s employees need ongoing training. PTCC provides efficient and effective training with an eye on the bottom line and with an eye on developing a company’s most important asset – its employees.

Job-Site Delivery

All training is available at your facility, so you’re paying employees for training time, not commuting time. Also, we arrange training according to your schedule, including early morning, evening or weekend training to accommodate the complex schedules of today’s workplace.

Professional Instructors and Consultants

Instructors are licensed professionals experienced in the classroom and the workplace. Training content meets your business goals, whether immediate, short-term, or long-term. All training includes hands-on experience, participant involvement, and plenty of time for questions and answers.

Customized for Your Needs

Our experienced staff, instructors and consultants work in partnership with you to ensure every aspect of the training process is tailored to your exact requirements: from the development of custom-tailored curriculum to pre-course logistics planning and post-course evaluation. Classes may be customized to fit the specific needs of your organization. Expertise is available in the following core areas:

Contractor Training
HVAC, Electrician, General Contractor and more.

Industrial Technology

Information Technology

Health Education
Nursing Assistant (NA), NA Skills Refresher, NA State Exam, Emergency Medical Technician (EMT), Emergency Medical Responder Initial (EMR), National Recertification for EMT (NCCR), EMR Refresher, BLS CPR, Heartsaver CPR, Infant & Child CPR, AHA Instructor Initial and Refresher, Psychomotor Exam - EMT Refresher and more.

Management Education
Awareness, Stress Management, Customer Service, Change Management, Sexual Harassment Prevention in the Workplace and more.

**Production Technology**
CNC Machining, IMT Apprenticeship and more.

**Other**
Motorcycle Safety Courses, Minnesota All Licenses Boiler Exam Prep Classes and more.

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**Admissions to the College**

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, and marital status, status with regard to public assistance, sexual orientation, gender identity, gender expression, familial status or membership or activity in a local commission. In addition, discrimination in employment based on membership or activity in a local commission as defined by law is prohibited. The college assures that the lack of English skills will not be a barrier to admission and participation.

**Ability to Benefit**

As of July 1, 2012, students without a high school diploma or a GED may be accepted to the college, but will not be eligible for federal financial aid (See Policy 317 found at: www.pine.edu/about/public-information-and-policies/campus-policies/). You may be asked to verify your high school or GED completion prior to enrolling in courses.

**Immunization**

Minnesota Law (MS 135A.14) requires that all students born after 1956 and who graduated from high school before 1997 and enroll in a public or private post-secondary school in Minnesota, including Pine Technical and Community College, must provide evidence of immunization for measles, mumps, diphtheria, and tetanus. Immunization forms and additional information are available from the Student Affairs Office or at www.pine.edu.

**Assessment for Course Placement**

Pine Technical and Community College, in order to comply with the Minnesota State Board Policy, 3.3.1, “Assessment for College Readiness,” requires students to complete an incoming student assessment or assess to appropriate levels on MCIT.

The ACCUPLACER includes reading, writing, and mathematics. It will be used to ensure that students have or develop the skills necessary to be successful with their college level curriculum.

Prior to registering for courses, incoming students complete an assessment of their basic academic skills. The assessment results are used for academic advising, career counseling, and to assist students in selecting appropriate courses.
Students are encouraged to take college readiness courses as early in their college career as possible. These college readiness skills are prerequisites for some courses.

Post Secondary Enrollment Option

Program Overview

The Post-Secondary Enrollment Options (PSEO) Program is the program established by Minnesota State Statutes 124D.09 to “promote rigorous educational pursuits and provide a wider variety of options for students.” Through PSEO, 10th, 11th and 12th grade high school students can get a jump start on their college education, explore future careers, and save money earning college credit by taking college courses while they are in still in high school through Minnesota’s PSEO program. PSEO courses may also fulfill high school course requirements and count toward a high school diploma. Pine Technical and Community College gladly participates in the PSEO program and offers this wonderful opportunity to our high school students. Pine Technical and Community College adheres to Minnesota State PSEO procedures which can be found at: www.mnscu.edu/board/procedure/3-05p1.pdf. PTCC Policy 319 provides additional information: www.pine.edu/about/public-information-and-policies/campus-policies/.

Career and Technical Course Options

Students who are interested in career and technical courses may take one career and technical college level course taught by a college faculty member on a college campus, at their high school or online as early as grade 10. To be eligible to do so, they must be enrolled in a public school, have a minimum of a “proficient” score on the 8th grade Minnesota Comprehensive Assessment (MCA) test for reading and meet the assessment prerequisites set for the course that must be met by all students. If a student successfully completes the technical course with a C or higher, the student can take additional career and technical courses as long as he or she meets the assessment requirement for those courses. Students who first enter PSEO programming through career and technical education can also begin to take PSEO general education courses in grades 11 and 12 by meeting the assessment pre-requisites for the general education course they wish to enroll in, regardless of class rank or percentile on a nationally standardized exam.

General Education Course Options

The PSEO program also allows high school students to take college courses on a college or university campus, at their high school or on-line taught by college or university faculty members. To be eligible to take PSEO courses at a Minnesota State Colleges and Universities, high school juniors must be in the upper one-third of their class or earn a score at or above the 70th percentile on a national test such as the ACT, SAT, PSAT or PLAN or have a high school GPA of 3.0 or higher for general education courses or a GPA of 2.5 or higher for career and technical education courses. Seniors must be in the upper half of their class or score at or above the 50th percentile on a national test such as the ACT, SAT, PSAT or PLAN.

Eligible students will also need to meet the assessment prerequisites set for the course that must be met by all students taking the course.

Concurrent Enrollment

Many high schools offer PSEO courses through concurrent enrollment, allowing students to take college courses taught by highly qualified high school teachers without having to leave the high school. Under certain circumstances, students in 9th or 10th grade may also be allowed to take concurrent enrollment courses.

Getting Started

If you are interested in PSEO or concurrent enrollment, talk to your high school guidance counselor and college/university admissions staff or go to www.minnstate.edu/admissions/pseo.

PSEO Admissions Process

A student applying as a PSEO student must provide the following information to Student Affairs:

- Pine Technical and Community College online Application for Admission.
- Completed Minnesota Department of Education PSEO Program Notice of Student Registration Form (NOSR) form signed by student, high school official and parent.
- Current high school transcript
- Verification of College Readiness, completion of course placement assessment or submission of ACT, SAT or MCA scores.
- If required, schedule Accuplacer Assessment to determine if the student meets college readiness or other course prerequisite requirements.

Courses and Credits

Select courses that fulfill courses required for high school graduation and share that schedule with your high school counselor.

You may enroll in one or more courses but your college credits cannot exceed what is considered full-time in high school.
School districts must allow students to enroll in high school courses in addition to any number of postsecondary courses. High school students are always eligible to enroll in high school courses in addition to any number of postsecondary courses as long as the student has at least one free period at the high school. Refer to the Participation Limits section for additional information. (See Minnesota Department of Education “PSEO Reference Guide” for details.)

If you plan to transfer PSEO credits to another college after high school graduation request an official transcript on the PTCC website.

PSEO students shall not register for developmental courses (college courses numbered below 1000) unless the student is enrolled through the PSEO State-Approved Early/Middle College Program (Minnesota Statutes, section 124D.09, subdivision 9b).

PSEO students will register on assigned registration days according to total credits earned. Students must complete the MDE’s NOSR form each semester, which must be signed by a high school official and parent. This form must be submitted to the K-12 Partnership Coordinator.

PSEO students are allowed to sign and pick up their required books and a reasonable amount of required supplies that will be used for their courses free to them if the MDE NOSR form has been filed with the K-12 Partnership Coordinator. Books charged by PSEO students are the property of Pine Technical and Community College unless otherwise specified.

Textbooks are the property of the local school sponsoring the PSEO student. At the end of the semester, books must be returned to the sponsoring school if they are an ECMECC Partner High School. Homeschooled and all other PSEO students from Minnesota must return their books to the Campus Store. Failure to return your books at the end of the semester will cause the student/parent to be held financially responsible for the unreturned books.

PSEO students are not eligible for financial aid, PTCC scholarships, or work-study.

PSEO Academic Standard for GPA and Course Completion

Once admitted to the college, PSEO students are required to maintain a minimum Grade Point Average and Course Completion Rate in order to continue their participation in the PSEO program. PSEO students must maintain a cumulative GPA of 2.0 (C average) in their Pine Technical and Community College courses and complete 67% of the courses that they attempt. If a student falls below these standards, they will be placed on Academic Warning and must meet Satisfactory Academic Progress requirements in order to maintain eligibility.

Credit for Prior Learning (AP and IB Options)

Advanced Placement (AP) or International Baccalaureate (IB) courses are offered at many high schools and provide a rigorous curriculum that prepares students to take college level courses. Students who achieve a 3 or higher on an Advanced Placement test can have that score evaluated by a college or university for a college credit. Students who attain an International Baccalaureate (IB) diploma shall be granted six (6) lower division course credits for scores of 4 or higher on each Higher Level IB examinations and two (2) lower division course credits for scores of 4 or higher on each Standard Level IB examination will be awarded college credit at any Minnesota State college or university.

Submit the following completed forms to the Admissions office:
- PTCC application
- MN Department of Education enrollment form
- PSEO Guidance Counselor/ Home School Parent Form
- Have your school counselor or home school coordinator send your high school transcript directly to:
  PSEO Admissions
  Pine Technical and Community College
  900 Fourth Street SE, Pine City, MN 55063
- Contact the Admissions Office to schedule an appointment for Assessment Testing and Orientation.

PSEO Admissions Appeal Process

PSEO applicants who do not meet the admissions requirements and are denied acceptance have the right to appeal the decision to the college using the Student Petition.

What constitutes an Appeal?

An appeal must include:
- A statement by the student in writing defining how they can be academically successful as a PSEO student at PTCC.
- A letter of recommendation from the high school counselor or principal stating the student can be academically successful at PTCC and that the high school supports the student’s admission to the college.

The appeal must be submitted to the Director of Student Success. Appeals received after this term starts will not be considered for the current semester. Notification of the decision will be sent to the student and the high school counselor/ principal.
Admission of Transfer Students

Transfer of Credit

Students transferring credits from another Minnesota State institution will have their credits transferred in through e-transcripts and do not need to provide an official copy of their transcript. Students requesting transfer of credits from a non-Minnesota State college or university must submit an official copy of that college’s (host college) transcript for evaluation by PTCC’s Student Affairs Office. Courses are evaluated with information from the host college’s course descriptions and/or catalog. Transfer credits are not used in calculating PTCC’s grade point average, but are considered in the completion percentage when applied to program majors. Only courses with grades of “C” or above within specific program majors may be considered. PTCC will accept Minnesota Transfer Curriculum (MnTC) courses with grades of “D” or above for transfer for completion of the entire MnTC. The Transfer Specialist and/or Registrar will give final approval for acceptance of credits and accepted credits will appear on the student’s official transcript and their interactive degree audit report (DARS). Current information regarding the Minnesota Transfer Curriculum can be found on the PTCC website at http://www.pine.edu/academics/transfer-information.

Pine Technical and Community College considers courses for transfer from colleges and universities that have been accredited by their regional associations. Transfer credit also may be considered for courses taken at institutions that lack regional accreditation but have been accredited by specialized agencies or at institutions outside the United States that have been chartered or authorized by their national governments. For PTCC’s Transfer Procedure, more about specific types of courses that transfer into PTCC (general education courses, technical/occupational courses, developmental courses, etc.), information about Transfer Maximum, articulation agreements and more, visit the Transfer Information page at www.pine.edu/academics/transfer-information.

Students have the right to appeal a transfer decision. For information on that process, contact the Student Affairs Office or MnSCU. Most recent transfer information can be found at http://www.pine.edu/academics/transfer-information.

Auditing

Non-credit auditing is available to individuals on a limited basis, depending on class size, at the same cost as a credit-seeking student. Audits must be requested no later than the fifth day of the term on the forms provided by the Registrar.

Non-Degree Seeking (Visiting) Students

Students may attend PTCC on a part-time basis in any program area. However, degree-seeking students have enrollment priority if space is limited. Students taking one to eight credits must meet the requirements for the specific courses. Students taking more than eight credits or who intend to complete a certificate, diploma or degree are required to complete the entire admissions process, including assessments and orientation. Students attending other Minnesota State institutions may register online for courses at PTCC. Dates for registration can be found on the Pine Technical and Community College’s website.

Admission of International Students

International applicants who are not permanent residents or citizens of the United States may be considered for admission upon submission of academic credentials, financial ability and English proficiency. If you would like to attend PTCC and you currently reside in another country, you need to apply using the application process for international students.

1. Completed Pine Technical and Community College Application. Include permanent home address and country of birth and country of citizenship. Include the names and relationship to you of any dependents who may be traveling with you.
2. Official transcripts verifying equivalency to a United States high school transcript.
3. Additional post-secondary transcripts if intending to transfer credits (subject to U.S. equivalencies).
4. Immunization records and/or evidence of recent physical examination (notarized).
5. Review the International Student Application Requirements and further information at: www.pine.edu

Admission of English as a Second Language and Other Language Learners

It is the policy of Pine Technical and Community College to provide effective access to all students, including those with limited English proficiency. All students entering Pine Technical and Community College will be assessed with the Minnesota State approved assessment tool (see policy 300). Students whose first language is not English will be advised to take the ESL version of the Minnesota State approved assessment tool.
Registration/Official Enrollment

Registration

All students register for classes online at the PTCC website. In order to register, all students must have a STAR ID and access eServices. Students are obligated financially for all registered courses.

Grade and Credit System

Pine Technical and Community College has adopted the following standards when awarding grades and calculating grade point average.

Policy: The marking system in tabular form, which may include grade shades (plus and minus) as needed, is as follows:

<table>
<thead>
<tr>
<th>Grade Description</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Superior Achievement</td>
<td>4.00</td>
</tr>
<tr>
<td>B – Above Average Achievement</td>
<td>3.00</td>
</tr>
<tr>
<td>C – Average Achievement</td>
<td>2.00</td>
</tr>
<tr>
<td>D – Below Average Achievement</td>
<td>1.00</td>
</tr>
<tr>
<td>F – Inadequate Achievement</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note: The quality points for purposes of computing GPA is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>FN</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Cumulative Grade Point Average (GPA): A student’s GPA is the quotient obtained by dividing the total number of quality points earned by the total number of semester credit hours attempted. The GPA is computed at the end of each semester and is reported with the grades to the student. All grades “A” through “F” are utilized in determining the student’s grade point average for the term and for the overall GPA (all PTCC coursework.)

Note: Courses transferring from other institutions are not computed in the GPA. (Some programs include transfer credits in major GPA calculations.)
Availability of this option is determined by the instructor. The grade of “CR” is not computed in the GPA.

EX – Experiential and Non-Academic Learning Credit: The grade of “EX” is given for credit courses in which a student satisfies the course requirements through documentation of prior learning. Not all courses are eligible for Experiential Learning Credit, such as developmental education courses. Availability of this option is determined by the instructor. The grade of “EX” is not computed in the GPA or credit completion ratio.

Adding Courses
It is the student’s responsibility to add courses from eServices found on the website at: http://www.pine.edu/current-students

Adding courses or other revisions to a schedule can only be done during the drop/add period. The period for dropping/adding a class expires after the fifth day of the semester. Adding courses after the drop/add period can only be done with approval from faculty and the Director of Student Affairs. Adding courses will affect the tuition and fees due and may have financial aid impact. It is the student’s responsibility to manage their finances accordingly. Please see the Business Services section for more information.

Dropping Courses
Students have the opportunity to attend one class session for each registered credit-based course without financial obligation in accordance with Minnesota State policy 5.12. Students are financially obligated for any classes dropped after the fifth business day of the term, or one business day after the first class session, whichever is later. For credit courses less than three weeks in length, the no obligation drop and refund period is one business day after the first course session.

Withdrawing from a Course
A student may withdraw from a course after the drop/add period and prior to 80% of the semester or instructional days; however, the student incurs all costs, and there are no refunds. The last date to withdraw for individual courses can be found in the course schedule within eServices. Students may withdraw from courses via eServices and are encouraged to meet with a faculty advisor prior to withdrawing. Students withdrawing from a single course (after the add/drop period listed above) are not eligible for a refund and will receive a grade of W. A withdrawal (W) on the transcript is not computed in the GPA, but factors into credit completion. Withdrawing from a course can affect financial aid. It is the student’s responsibility to manage their finances accordingly.

Withdrawing from all courses
Students wishing to completely withdraw from the college can do so via eServices. Students who totally withdraw from the College may be eligible for a refund as defined below. A student who withdraws simply by non-attendance will not be eligible for a refund. When students do not officially withdraw, they will be liable for all tuition and fees for those courses. Business Services will determine if a refund is appropriate and to whom the refund should be distributed. Questions about refunds should be directed to Business Services.

Fall And Spring Terms: Total Withdrawal from College

<table>
<thead>
<tr>
<th>Refund Period</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st through 5th class day of the term</td>
<td>100%</td>
</tr>
<tr>
<td>6th through 10th class day of the term</td>
<td>75%</td>
</tr>
<tr>
<td>11th through 15th class day of the term</td>
<td>50%</td>
</tr>
<tr>
<td>16th through 20th class day of the term</td>
<td>25%</td>
</tr>
<tr>
<td>After 20th class day of the term</td>
<td>0%</td>
</tr>
</tbody>
</table>

Summer Term

<table>
<thead>
<tr>
<th>Refund Period</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st through 5th class day of the term</td>
<td>100%</td>
</tr>
<tr>
<td>6th through 10th class day of the term</td>
<td>50%</td>
</tr>
<tr>
<td>After the 10th class day of the term</td>
<td>0%</td>
</tr>
</tbody>
</table>

Name and Address Change
For purposes of official college mailings and emergency situations, it is expected that all students report changes of address, telephone number, name change, or any other revision from the student’s original application information online via eServices. Name changes may require copies of legal documentation. Students can change their name and address on the “eServices” site at http://www.pine.edu/current-students/student-forms or in-person at the Student Affairs Office.

Appeal For Tuition/Fees Refund
Students requesting refunds or other financial adjustments after a course has begun must file a petition with Student Affairs. Any tuition/fees refund will be recommended by the Director of Student Affairs based on the following criteria:

- Student injury or illness requiring extensive hospital and/or convalescent care. (A doctor’s statement may be required.)
• Extenuating circumstances or natural disaster involving a family/
personal emergency which must be documented.
• Military duty (letter of assignment or notice of re-call is required).

The Chief Financial Officer and President of the College must review all
petitions where a tuition/fee refund is recommended.
Petition forms are available in the Student Affairs Office or on PTCC’s
website.

*In the case of illness or injury, a family member is defined as the
spouse, minor or dependant children/stepchildren/foster children (including
wards and children for whom the student is legal guardian), or parent/
stepparent living in the same household as the student.

**In the case of death, a family member is defined as the spouse or
domestic partner, the parents and grandparents of the spouse, the parents/
step-parents, grandparents, guardian, children, grandchildren, brothers,
sisters, wards, or stepchildren of the student.

Financial aid is based on the number of registered and paid credits.
If a tuition appeal is approved, a student’s financial aid may be reduced,
which would require the student to repay a portion of his/her financial
aid. Students need to contact the Financial Aid office before applying for a
tuition refund to determine if their aid package will be impacted.

Cancellation of Classes
There are times when classes may be canceled as a semester course
offering. Many factors are considered before a class is cancelled. Three
major factors are:
• Instructor availability. Sometimes it is necessary to cancel a class
because a qualified instructor is not available.
• Low enrollment. The general rule is that a class may be cancelled if it
has less than 50% of its capacity registered for it.
• Room/time conflicts. Class changes or additions may trigger a need
to cancel or move certain classes.

Every effort will be made to minimize the frequency of cancellations.

Classification of Students
Enrollment Status for Financial Aid
For reporting purposes, students must be enrolled, in attendance,
and maintaining Satisfactory Progress in order to receive financial aid. For
purposes of determining financial aid eligibility, the following enrollment
guidelines will be used:

For Pell Grant, SEOG Grant, Student Loans, and Work Study
12 credits or more/semester: Full Time
9-11 credits/semester: 3/4 Time
6-8 credits/semester: 1/2 Time
1-5 credits/semester: less than 1/2 Time

For Minnesota State Grant
15 credits or more/semester: – Full Time
Then a percentage decrease by number of credits until 3 credits/
semester: – 1/5 Time

Students are not required to take a minimum number of credits each
semester. However, to make progress toward the completion of a
60-credit associate degree or diploma within a two-year time frame,
students must complete an average of 15 credits each semester. Students
planning to take more than 19 credits fall and spring semesters and more
than 9 credits summer semester must obtain approval from the Director of
Student Affairs.

Graduation Requirements
To receive a degree, diploma, or certificate, all required courses in
the program major must be completed, including the prescribed general
education courses, at a cumulative GPA of 2.00 or better on a 4.0 grading
scale. For a transcript to reflect program completion or graduation, students
are required to fulfill all financial obligation to the college and complete a
graduation application.

Note: Students are subject to the requirements in their program in
effect at the time of their enrollment. When enrollment has been broken
for one year, the student is subject to the degree, diploma, or certificate
requirements as stated in their program that is current at the time of
re-enrollment.

Academic Honors
Students achieving academic excellence will be eligible for several
awards: inclusion on the President’s List, Dean’s List, or Notable
Achievement List on a semester-by-semester basis and receipt of Honors,
High Honors or the President’s Honor Award upon graduation.
The President’s, Dean’s and Notable Achievement lists will be compiled and awarded twice annually, once in Fall semester and once in Spring semester.

Students who meet the following criteria will be included on the President’s List:
• Current enrollment at PTCC with a declared major as a full-time student (12 or more credits).
• A GPA for the semester of 4.0.
• Students will be eligible for each semester in which they are enrolled in a declared major.
• Courses taken on a pass/no credit basis will be used to calculate full-time status but not GPA.

Students who meet the following criteria will be included on the Dean’s List:
• Current enrollment at PTCC with a declared major as a full-time student (12 or more credits).
• A GPA for the semester of 3.0-3.9.
• Students will be eligible for each semester in which they are enrolled in a declared major.
• Courses taken on a pass/no credit basis will be used to calculate full-time status but not GPA.

Students who meet the following criteria will be included on the Notable Achievement List:
• Current enrollment at PTCC with a declared major as a part-time student (registered for 6-11 credits).
• A GPA for the semester of 3.5 or above.
• Students will be eligible for each semester in which they are enrolled in a declared major.
• Courses taken on a pass/no credit basis will be used to calculate full-time status but not GPA.

Students who meet the following criteria will be recognized during spring commencement ceremonies.

The President’s Honor Award will be presented to students who are receiving a diploma or Associate’s degree and have maintained an overall cumulative 4.0 GPA throughout their entire study at Pine Technical and Community College and will wear a gold cord upon graduation.

Students with cumulative GPAs of 3.75-3.99 at time of application for graduation will be awarded High Honors and wear a gold cord at graduation.

Commencement

Attendance at spring graduation commencement ceremony is optional, but students must indicate their intention to participate in the ceremony on their Application for Graduation. Caps and gowns are required and will be available for purchase through the College Store.

Students may participate in spring commencement ceremonies if they complete a program of study any time during the academic year.

Student Records/Data Privacy

Pine Technical and Community College complies with all state and federal data privacy laws. Essentially, this means that a student has the right to see all of their records and to determine, for the most part, who also may see or use this data. A student also has the right to refuse to provide any or all of the data requested. However, there may be consequences for not supplying some of the data. Information on data privacy is covered at Orientation.

Directory information as defined by Policy 313 is found at www.pine.edu/about/public-information-and-policies/campus-policies/ and is data that may be released to anyone without the student’s consent. Pine Technical and Community College’s Directory Information includes name, hometown, program major, and participation in school activities, dates of enrollment, certificates/diplomas/degrees earned, and awards received.

No other information will be released to anyone, with the exception of certain agencies and school officials as defined by state and federal law, without written permission from the student. If a student does not want this information released, he/she must request confidentiality in writing. This must be done within two weeks after a term begins; a form is available in the Student Affairs office for this purpose.

Student records are maintained by the Registrar in the Student Affairs Office. Requests to review student records must be made in writing to the Registrar. Students have the right to challenge the contents of their records and request that corrections or explanations be placed within those records. Contact the Director of Student Affairs for information.

Computer Use Policy

Pine Technical and Community College’s Information Systems (IS) department provides computer services to College faculty, staff, and students. The IS department offers technical assistance to faculty and staff
and maintains all computers in the college. Students may use lab facilities to work on assignments and to conduct research.

The IS department also provides a variety of application software and multimedia production tools. Faculty, staff, and students may check out digital cameras, computer projectors, notebook computers, and other AV equipment for projects directly related to their academic work. The IS department, in cooperation with Disability Services, also provides assistive technologies for College students with disabilities.

College information technology resources are the property of Pine Technical and Community College, and are provided for the direct and indirect support of the College’s educational, research, service, student and campus life activities, administrative and business purposes, within the limitations of available College technology, financial and human resources. The use of Pine Technical and Community College information technology is a privilege. Users have no explicit or implicit expectation of privacy. Pine Technical and Community College’s computer systems are provided for authorized users only. Unauthorized or improper use of the College’s information technology resources may result in administrative disciplinary action and civil and criminal penalties. By logging into Pine Technical and Community College’s system you indicate your awareness of, and consent to, these terms and conditions of use. In order to receive a college login account, all students must sign a Computer Responsibility Agreement.

Parking Regulations

Please observe the parking restrictions indicated by signs, snowplowing requirements, yellow lines, etc. – especially areas reserved for visitors and handicapped parking spaces.

No overnight parking of vehicles is allowed unless permission from the maintenance department is obtained. There is a designated area for motorcycles and bicycles. Any vehicle parked on the campus is parked at the risk of the owner. The College assumes no responsibility for care or protection of any vehicle or its contents. Please keep your vehicle locked. Unpaid parking tickets will be recorded and will prohibit a student from registering for classes and obtaining transcripts.

Violators will be ticketed and fined.

Parking Violations

Parking fine (second offense for unauthorized parking): $25.00
Visitor parking is designated for guests only.

Circumstances under which vehicles will be ticketed and/or towed shall include (but not limited to) the following:
1. Parking operations receives a complaint that a vehicle is illegally parked, obstructing traffic, impeding emergency responses and/or college operations, blocking pedestrian traffic, etc.
2. Vehicles parked in such a way to constitute a hazard, impede vehicular and pedestrian traffic, emergency responses and repair, or grounds operations.

Student Petition

Students are provided a process whereby they can request waivers or other exceptions to existing academic or college policies or procedures. The Petition is found on the website under student forms at: http://www.pine.edu/current-students/student-forms

Important Note:
College policies can be subject to changes throughout the academic year. Current policies are listed at www.pine.edu

Academic-Related Activities

These activities provide opportunities that expand the academic experience beyond the classroom. Academic-related activities include clubs and organizations, Phi Theta Kappa honor society, field trips, forums and conferences, community projects, other class projects, exhibits, and displays. Upcoming Student Life activities are announced weekly.
Applied Engineering Technology - Associate of Applied Science

Associate of Applied Science Degree (60)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
</tr>
<tr>
<td>or ENGL 1277 Technical Communications</td>
<td></td>
</tr>
<tr>
<td>MATH 1260 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
</tr>
<tr>
<td>MnTC Goal Area 2 Communication</td>
<td></td>
</tr>
</tbody>
</table>

General Education Electives

| MnTC Goal Area 5 History and the Social and Behavioral Sciences | 6 |

Subtotal | 16

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AENG 1231 Material &amp; Manufacturing Process</td>
<td>3</td>
</tr>
<tr>
<td>AENG 1241 Introduction to Statics</td>
<td>3</td>
</tr>
<tr>
<td>AENG 1250 Applied Engineering Design Project</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2210 Reverse Engineering</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2222 Prototyping</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2220 Machine Design &amp; Kinematics</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2230 Manufacturing Project Management</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2241 Advanced Computer Aided Design (CAD)</td>
<td>3</td>
</tr>
<tr>
<td>AENG 2250 Applied Engineering Capstone</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1550 DC Power</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1551 Programmable Logic Controllers I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 2522 Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>WELD 1501 Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1241 Introduction to Computer Aided Design (CAD)</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1201 Basic Machine Shop</td>
<td>3</td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits | 60

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must attain a grade of “C” or better in technical education courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

Automated Systems Technology Industrial Equipment Technician – Associate of Applied Science

Automated Systems Technology Diploma [33 Credits]

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 1277 Technical Communications</td>
<td></td>
</tr>
<tr>
<td>MATH 1256 Mathematical Thinking</td>
<td>2</td>
</tr>
</tbody>
</table>

Subtotal | 3

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>ETEC 1550 DC Power</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1552 AC Power</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1558 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1541 Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1551 Programmable Logic Controllers I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1560 Human Machine Interface I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1581 Automated Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 2522 Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>ETEC 2543 Programmable Logic Controllers II</td>
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</tbody>
</table>

Diploma Credits | 33

Industrial Technician Associate of Applied Science (27 additional credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
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</tr>
<tr>
<td>or ENGL 1277 Technical Communications</td>
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<tr>
<td>General Education Elective</td>
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<tr>
<td>MnTC Goal Area 2 Communication</td>
<td></td>
</tr>
</tbody>
</table>

General Education Elective

| MnTC Goal Area of Choice | 5 |

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WELD 1501 Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1201 Basic Machine Shop</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Process</td>
<td>2</td>
</tr>
<tr>
<td>AENG 2230 Manufacturing Project Management</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 2900 Automated Systems Technology Capstone</td>
<td>4</td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits | 60

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must attain a grade of “C” or better in technical education courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.
## Automated Systems Technology – Diploma

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1260 College Algebra or MATH 1256 Mathematical Thinking</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>ETEC 1550 DC Power</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1552 AC Power</td>
<td>3</td>
</tr>
<tr>
<td>ETECS1558 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1541 Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1551 Programmable Logic Controllers I</td>
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<tr>
<td>ETEC 1560 Human Machine Interface I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 1581 Automated Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ETEC 2522 Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>ETEC 2543 Programmable Logic Controllers II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Diploma Credits** 33

### Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must attain a grade of C- or better in technical education courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

### Precision Machining Technology Associate of Applied Science

#### Precision Machining Certificate (28 credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCO 1201 Computer Concepts and Applications</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*MTTP 1208 Measuring Tools</td>
<td>1</td>
</tr>
<tr>
<td>*MTTP 1220 Blueprint Reading I</td>
<td>2</td>
</tr>
<tr>
<td>MTTP 1241 Introduction to CAD</td>
<td>3</td>
</tr>
<tr>
<td>*MTTP 1245 Machining Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>MTTP 1256 Applied Machining Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

**Certificate Credits** 28

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSTP 1235 Heat Treating &amp; Metallurgy</td>
<td>1</td>
</tr>
<tr>
<td>MTTP 1261 Introduction to Computer Aided Manufacturing (CAM)</td>
<td>2</td>
</tr>
<tr>
<td>MTTP 1277 Machining Processes</td>
<td>2</td>
</tr>
</tbody>
</table>

**Diploma Credits** 45

### Precision Machining Technology Associate of Applied Science (15 additional credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1260 College Algebra or MATH 1256 Mathematical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>3</td>
</tr>
<tr>
<td>MeTS General Area 1 Communication</td>
<td>3</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
<tr>
<td>MeTS General Area 2-9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTTP 2290 Manufacturing Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

**Associate of Applied Science Credits** 60

### Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must attain a grade of C- or better in designated (*) courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

**Effective Fall Semester 2019**

900 Fourth Street SE  | Pine City, MN 55063  | 220.629.5000 | MN Relay 711  | www.pine.edu  | A MEMBER OF MINNESOTA STATE

Pine Technical & Community College is an affirmative action, equal opportunity employer and educator.
The requirements of this program are subject to change without notice.

### Manufacturing Foundations Certificate (8 Credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Processes and Production</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
</tbody>
</table>

**Certificate Credits**: 8

### Production Technologies Certificate (8 additional credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1502 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1506 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1510 Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1528 Career Success Skills</td>
<td>1</td>
</tr>
</tbody>
</table>

**Certificate Credits**: 16

### Manufacturing Foundations Diploma (17 additional credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELD 1560 Interpreting Symbols</td>
<td>2</td>
</tr>
<tr>
<td>WELD 1562 Oxyfuel Welding and Cutting Process</td>
<td>3</td>
</tr>
<tr>
<td>WELD 1564 Shield Metal Arc Welding (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>WELD 1566 Gas Metal Arc Welding (GMAW)/Flux Cored Arc Welding (FCAW)</td>
<td>3</td>
</tr>
<tr>
<td>WELD 1568 Gas Tungsten Arc Welding (GTAW)</td>
<td>3</td>
</tr>
<tr>
<td>WELD 1570 Metallurgy and Mechanical Properties of Metals</td>
<td>1</td>
</tr>
<tr>
<td>WELD 1590 Welding Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

**Diploma Credits**: 33

### Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must attain a grade of 'C' or better in designated (*) courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

---

### Manufacturing Foundations - Certificate

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
<td>This program is a closed enrollment program.</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Process</td>
<td>2</td>
<td>Student must meet entrance requirements.</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Total Certificate Credits**: 8

### Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.
**Production Technologies - Certificate**

<table>
<thead>
<tr>
<th>Manufacturing Foundations Certificate (8 credits)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Education Courses</strong></td>
<td></td>
</tr>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Process</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production Technologies Certificate (8 additional credits)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Education Courses</strong></td>
<td></td>
</tr>
<tr>
<td>CMAE 1502 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1506 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1510 Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1528 Career Success Skills</td>
<td>1</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

**Additional Requirements:**

Students must meet entrance requirements. Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

**Effective Fall Semester 2016**  
Approved by MSE: 3/10/2016

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**Welding Technology - Certificate**

<table>
<thead>
<tr>
<th>Manufacturing Foundations Certificate (8 credits)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Education Courses</strong></td>
<td></td>
</tr>
<tr>
<td>CMAE 1514 Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1518 Manufacturing Processes and Production</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522 Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526 Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Welding Technology Certificate (22 additional credits)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Education Courses</strong></td>
<td></td>
</tr>
<tr>
<td>CMAE 1502 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1506 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1510 Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1560 Interpreting Symbols</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1562 Oxyfuel Welding and Cutting Process</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1564 Shield Metal Arc Welding (SMAW)</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1566 Gas Metal Arc Welding (SMAW)/Flux Cored Arc Welding (FCAW)</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1568 Gas Tungsten Arc Welding (GTAW)</td>
<td>3</td>
</tr>
<tr>
<td>CMAE 1570 Metallurgy and Mechanical Properties of Metals</td>
<td>1</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

**Additional Requirements:**

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

**Effective Fall Semester 2013**  
Approved by MSE: 3/12/2013

---

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Pine Technical & Community College is an affirmative action, equal opportunity employer and educator.
Automotive Technology Program - Associate of Applied Science

Certificate (27 credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATMP 1207 Basic Electricity</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1209 Vehicle Service</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1219 Brakes</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1223 Engine Electrical and Accessories</td>
<td>6</td>
</tr>
<tr>
<td>ATMP 1230 Engines</td>
<td>6</td>
</tr>
<tr>
<td>ATMP 1265 Chassis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

Diploma (29 additional credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATMP 1222 Air Conditioning &amp; Heating Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1243 Drive train</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1248 Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>ATMP 1255 Fuel Systems</td>
<td>6</td>
</tr>
<tr>
<td>ATMP 1261 Alternative Fuels</td>
<td>1</td>
</tr>
<tr>
<td>ATMP 1275 Wiring &amp; Electrical Diagnosis</td>
<td>3</td>
</tr>
<tr>
<td>ATMP 1281 General Shop</td>
<td>4</td>
</tr>
<tr>
<td>ATMP 1289 Scan Tools</td>
<td>3</td>
</tr>
<tr>
<td><strong>Diploma Credits</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

Associate of Applied Science (35 additional credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>General Education MLTC Goal Area 1 - Communication (minimum of 2 courses)</td>
<td>3-4</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>General Education MLTC Goal Area 4 - Mathematical Reasoning (minimum of 1 course)</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>General Education MLTC Goal Area 6 - Humanities and Fine Arts (minimum of 1 course)</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>General Education MLTC Goal Area of choice</td>
<td>5-6</td>
</tr>
<tr>
<td><strong>Associate of Applied Science Credits</strong></td>
<td><strong>71</strong></td>
</tr>
</tbody>
</table>

Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for many courses. The requirements of this program are subject to change without notice.

Business Transfer Pathway – Associate of Science

Business Essentials Certificate (16 credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 1110 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 1120 Business Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 1130 Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 1140 Business Information Systems</td>
<td>3</td>
</tr>
<tr>
<td><strong>Certificate Credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Business Transfer Pathway Associate of Science (44 additional credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2200 Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 1250 Introduction to Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>or BIOL 1240 Health &amp; Disease in the Human Body</td>
<td></td>
</tr>
<tr>
<td>MATH 1260 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1265 Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1230 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1250 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1220 Human Ethics</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1270 Introduction to Speech</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>2</td>
</tr>
<tr>
<td>or FYEX 1010 First Year Experience: Focus on College</td>
<td></td>
</tr>
<tr>
<td><strong>Technical Education Courses</strong></td>
<td></td>
</tr>
<tr>
<td>ACCT 2110 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2120 Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSN 2110 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2220 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 2230 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>Associate of Science Credits</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of "C" or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.
A student must attain a grade of 'C' or better in designated (*) courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

### Business Administration - Diploma

#### General Education Courses
- ENGL 1276 College Composition: 4 credits

#### Technical Education Courses
- BUSN 1110 Introduction to Business: 3 credits
- BUSN 1120 Business Computer Applications: 3 credits
- BUSN 1130 Human Relations in Business: 3 credits
- BUSN 1140 Business Information Systems: 3 credits

#### Certificate Credits
- Total Credits: 16

### Business Administration Diploma (15 additional credits)

#### Technical Education Courses
- BUSN 2220 Principles of Marketing: 3 credits
- BUSN 2230 Principles of Management: 3 credits

#### Elective Credits from the following courses:
- ACCP 2110 Financial Accounting (4)
- ACCP 2120 Managerial Accounting (4)
- BIOL 1240 Health & Disease in the Human Body (4)
- BUSN 2210 Legal Environment of Business (3)
- ENGL 2200 Advanced Composition (3)
- ENGR 1250 Introduction to Environmental Science (4)
- ECON 2230 Principles of Microeconomics (3)
- FYEX 1010 First Year Experience: Focus on College (2)
- HUM 1220 Human Ethics (3)
- MATH 1260 College Algebra (3)
- MATH 1265 Elementary Statistics (3)
- SPCH 1270 Introduction to Speech (3)

#### Diploma Credits
- Total Credits: 31

### Additional Requirements:
- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

- A student must attain a grade of 'C' or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

### Certificate Essentials - Certificate

#### General Education Courses
- ENGL 1276 College Composition: 4 credits

#### Technical Education Courses
- BUSN 1110 Introduction to Business: 3 credits
- BUSN 1120 Business Computer Applications: 3 credits
- BUSN 1130 Human Relations in Business: 3 credits
- BUSN 1140 Business Information Systems: 3 credits

#### Certificate Credits
- Total Credits: 16

### Additional Requirements:
- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

- A student must attain a grade of 'C' or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.
### Early Childhood Development – Associate of Science

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Recommended for articulated bachelor degrees:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
<td>MATH 1260 College Algebra (3) – (Fulfills MnTC Goal area 4)</td>
</tr>
<tr>
<td>SPCH 1270 Introduction to Speech</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCI 1220 Marriage, Family and Relationships</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Education Electives</td>
<td>3</td>
<td>MATH 1260 College Algebra</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>17</td>
<td>MATH Goal Area 6 &amp; 10</td>
</tr>
</tbody>
</table>

**Associate of Science Credits**

|  | 60 |

**Technical Education Courses**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDEV 1200 Introduction to Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1210 Child Growth &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1222 Health, Safety &amp; Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1230 Positive Child Guidance</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1252 Observation &amp; Assessment</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 1340 Learning Environment &amp; Curriculum</td>
<td>4</td>
</tr>
<tr>
<td>CDEV 2510 Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 2610 Organizational Leadership &amp; Management</td>
<td>2</td>
</tr>
<tr>
<td>CDEV 2620 Children with Differing Abilities</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 2640 Curriculum Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit**

|  | 60 |

**Additional Requirements:**
- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

### Early Childhood Development – Associate of Applied Science

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Recommended for articulated bachelor degrees:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
<td>MATH 1260 College Algebra (3) – (Fulfills MnTC Goal area 4)</td>
</tr>
<tr>
<td>SPCH 1270 Introduction to Speech</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCI 1220 Marriage, Family and Relationships</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Education Electives</td>
<td>3</td>
<td>MATH 1260 College Algebra</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>17</td>
<td>MATH Goal Area 6 &amp; 10</td>
</tr>
</tbody>
</table>

**Certificate Credits**

|  | 20 |

**Diploma (12 additional credits)**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTTP 1245 Machining Fundamentals I</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 2263 Quality in Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 2268 Machining Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits**

|  | 60 |

**Additional Requirements:**
- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

### Certificate (20 credits)

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
</tr>
<tr>
<td>TECH 1200 Technical Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technical Education Courses**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDEV 1240 Working with Diverse Families &amp; Children</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 2530 Children with Challenging Behaviors</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 2610 Organizational Leadership &amp; Management</td>
<td>2</td>
</tr>
<tr>
<td>CDEV 2620 Children with Differing Abilities</td>
<td>3</td>
</tr>
<tr>
<td>CDEV 2810 Practicum II</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits**

|  | 32 |

**Associate of Applied Science (28 additional credits)**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCH 1270 Introduction to Speech</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1220 Marriage, Family &amp; Relationships</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>17</td>
</tr>
</tbody>
</table>

**Total Credits**

|  | 60 |

**Additional Requirements:**
- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in ALL courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.
Emergency Medical Services Professional – Certificate

Certificate (17 Credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>* BIOL 1240 Health and Disease in the Human Body</td>
<td>4</td>
</tr>
</tbody>
</table>

Subtotal

4

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT 1275 Emergency Medical Services</td>
<td>1</td>
</tr>
<tr>
<td>EMT 1275 Emergency Medical Technician</td>
<td>6</td>
</tr>
<tr>
<td>EMT 1730 Emergency Medical Technician Clinical</td>
<td>2</td>
</tr>
<tr>
<td>EMT 1735 Emergency Medical Operations</td>
<td>3</td>
</tr>
<tr>
<td>HPPC 1002 Medical Terminology</td>
<td>1</td>
</tr>
</tbody>
</table>

Certificate Credits

17

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of ‘C’ or better in designated (*) courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

Effective: Fall Semester 2018
Approved by AASC: 04/25/2018
Approved by Minnesota State Board: 09/06/2018
Annually updated: 02/11/2019

Gunsmithing and Firearms Technology – Associate of Applied Science

Firearm Technician Diploma (35 credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition or ENGL 1277 Technical Communications</td>
<td>4</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSTP 1202 Rifle Design and Function</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 1204 Shotgun Design and Function</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 1215 Accessories Installation</td>
<td>2</td>
</tr>
<tr>
<td>* GSTP 1217 Firearm Business</td>
<td>2</td>
</tr>
<tr>
<td>GSTP 1240 Semiautomatic Design and Theory</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 1250 Handgun Design and Theory</td>
<td>4</td>
</tr>
<tr>
<td>*MTTP 1208 Measuring Tools</td>
<td>1</td>
</tr>
<tr>
<td>MTTP 1241 Introduction to Computer Aided Design (CAD)</td>
<td>3</td>
</tr>
<tr>
<td>*MTTP 1245 Machine Fundamentals I</td>
<td>4</td>
</tr>
</tbody>
</table>

Diploma Credits

35

Gunsmithing and Firearms Technology Associate of Applied Science (35 additional credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 1220 Human Ethics</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSTP 1225 Welding, Soldering and Brazing</td>
<td>2</td>
</tr>
<tr>
<td>GSTP 1235 Metallurgy and Heat Treating</td>
<td>1</td>
</tr>
<tr>
<td>GSTP 2210 Tooling and Fetturizing</td>
<td>4</td>
</tr>
<tr>
<td>GSTP 2230 Barreling and Chambering</td>
<td>4</td>
</tr>
<tr>
<td>GSTP 2233 Firearm Finishes</td>
<td>4</td>
</tr>
<tr>
<td>GSTP 2267 One Piece Stockmaking</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 2269 Two Piece Stockmaking</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 2270 Shotgunsmith</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 2280 Riflemaking</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1261 Introduction to Computer Aided Manufacturing (CAM)</td>
<td>2</td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits

70

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of ‘C’ or better in designated (*) courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

Effective: Fall Semester 2018
Approved by AASC: 04/25/2018
Approved by Minnesota State Board: 09/06/2018
Annually updated: 02/11/2019

Gunsmithing and Firearms Technology – Associate of Applied Science

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTTP 1245 Machining Fundamentals I</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1220 Blueprint Reading I</td>
<td>2</td>
</tr>
<tr>
<td>MTTP 1261 Blueprint Reading II</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1262 Blueprint Reading II</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1265 Machining Fundamentals II</td>
<td>2</td>
</tr>
<tr>
<td>MTTP 1268 Introduction to Computer Aided Design (CAD)</td>
<td>3</td>
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</tbody>
</table>

Certificate Total Credits

17

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276 College Composition or ENGL 1277 Technical Communications</td>
<td>4</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSTP 1225 Welding, Soldering and Brazing</td>
<td>2</td>
</tr>
<tr>
<td>GSTP 1235 Metallurgy and Heat Treating</td>
<td>1</td>
</tr>
<tr>
<td>GSTP 2210 Tooling and Fetturizing</td>
<td>4</td>
</tr>
<tr>
<td>GSTP 2230 Barreling and Chambering</td>
<td>4</td>
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<tr>
<td>GSTP 2233 Firearm Finishes</td>
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<tr>
<td>GSTP 2270 Shotgunsmith</td>
<td>3</td>
</tr>
<tr>
<td>GSTP 2280 Riflemaking</td>
<td>3</td>
</tr>
<tr>
<td>MTTP 1261 Introduction to Computer Aided Manufacturing (CAM)</td>
<td>2</td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits

70

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of ‘C’ or better in designated (*) courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

Effective: Spring Semester 2019
Approved by AASC: 04/25/2018
Approved by Minnesota State Board: 09/06/2018
Annually updated: 02/11/2019
Health Sciences Broad Field - Associate of Science

Associate of Science (60 Credits)

General Education Courses

Biol 1217 Nutrition and Wellness 3
Engr 1237 College Composition 4
Math 1260 College Algebra 3
Math 1265 Elementary Statistics 3
PhIL 1220 Human Ethics 3
PsyC 1230 Introduction to Psychology 3
PsyC 1250 Lifespan Development 3
Soci 1200 Introduction to Sociology 3
Spch 1250 Intercultural Communications 3
General Education Electives

MTTC Goal Area 2 Global Perspectives is recommended

Subtotal 31

Science Core Courses

Biol 1250 General Biology 4
Biol 1255 Microbiology 3
Biol 1260 Anatomy & Physiology I 4
Biol 1270 Anatomy & Physiology II 4
Chem 1250 Principles of Chemistry I 4
General Education Science Elective

MTTC Goal Area 3 Natural Sciences is recommended

Technical or General Education Electives 6

Associate of Science Credits 60

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

Effective Full Semester 2013

Approved by AASC: 10/23/2013, 7/17/2014, 12/9/2015
Approved by Minnesota State Board: 12/19/2013

Healthcare Pre-Professional - Certificate

Certificate (20 Credits)

General Education Courses

Biol 1240 Health and Disease in the Human Body 4
Engr 1276 College Composition 4

Subtotal 8

Technical Education Courses

Hccc 1217 Introduction to Health Careers I 2
Hccc 1220 Introduction to Health Careers II 2
Hccc 1225 Healthcare Careers Skill Set 2
Hppc 1000 Medical Dosages 1
Hppc 1002 Medical Terminology 1
Hppc 1004 Pharmacology 3
Hppc 1010 Trained Medication Aide for Unlicensed Personnel 1

Certificate Credits 20

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in all courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

Effective Summer Semester 2016

Approved by Minnesota State Board: 12/19/2013

Note: This certificate would be beneficial for any student planning to obtain a healthcare related degree. It can be completed in one year. (Components of this certificate are required or highly recommended for the Medical Assistant and Practical Nursing programs.)
A student must attain a grade of 'C' or better in designated (*) courses and final cumulative GPA of 2.0 or higher to graduate.

The requirements of this program are subject to change without notice.

Required Technical Courses

Advanced Manufacturing Technology AAS - Computer Controlled Manufacturing Emphasis (15 additional credits)
- MTTP 1277 Machining Processes
- MTTP 1261
- GSTP 1235 Heat Treating & Metallurgy

Advanced Manufacturing Technology Diploma - Computer Controlled Machining Emphasis (17 additional credits)
- *MTTP 1245 Machining Fundamentals I
- MTTP 1241 Introduction to CAD
- *MTTP 1208

Precision Machining Certificate (28 credits)

Nursing Assistant - Certificate

Certificate (3 Credits)

<table>
<thead>
<tr>
<th>Technical Education Courses</th>
<th>Credits</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEOP 1241 Nursing Assistant</td>
<td>2</td>
<td>HEOP 1510 Nursing Assistant Comprehensive (4 credits) is an appropriate substitution to HEOP 1241 and HEOP 1242 and will satisfy the Nursing Assistant Certificate program.</td>
</tr>
<tr>
<td>HEOP 1242 Nursing Assistant Clinical</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total Certificate Credits</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

Nursing Mobility – Associate of Science

Associate of Science (64 Credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
<th>General Education Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1250 General Biology</td>
<td>4</td>
<td>• Prior to admission to NURS courses, students must complete all 28 credits of required general education courses with no substitutions accepted.</td>
</tr>
<tr>
<td>BIOL 1255 Microbiology</td>
<td>3</td>
<td>• General Education Elective from Minnesota Transfer Curriculum (MnTC) can be taken concurrently with either General Education or NURS courses.</td>
</tr>
<tr>
<td>BIOL 1260 Anatomy and Physiology I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIOL 1270 Anatomy and Physiology II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PHIL 1220 Human Ethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 1200 Introduction to Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 1230 Lifespan Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MN Tran</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 1277 Technical Communication</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 1256 Mathematical Thinking</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 2260 Cutting Tool Technology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MTTP 2255 CNC Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTTP 2263 Quality in Manufacturing</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MTTP 2268 Machining Internship</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MTTP 2290 Manufacturing Capstone Project</td>
<td>3</td>
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</tr>
</tbody>
</table>

Subtotal 30

Technical Education Courses

<table>
<thead>
<tr>
<th>General Education Elective Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 2922 Professional Nursing Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>NURS 2923 Role Transition: LPN to Professional Nurse</td>
<td>2</td>
</tr>
<tr>
<td>NURS 2927 Professional Nursing I</td>
<td>8</td>
</tr>
<tr>
<td>NURS 2931 Professional Nursing Leadership and Management</td>
<td>2</td>
</tr>
<tr>
<td>NURS 2934 Professional Nursing II</td>
<td>8</td>
</tr>
<tr>
<td>NURS 2936 Professional Nursing Practicum II</td>
<td>4</td>
</tr>
<tr>
<td>LPN Students will be awarded advanced standing nursing credits</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credential Credits 64

Additional Requirements:
Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses.

A student must have GPA of 3.0 in General Education courses to apply for the program.

Acknowledgments:
Credits listed are approved by the Minnesota State Board of Regents 4/4/09, 8/11/10, 3/15/13. Internally Updated: 7/6/16
Practical Nursing - Diploma

Requirements (11 Credits)

<table>
<thead>
<tr>
<th>Prerequisite Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1240 Health and Disease in the Human Body</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1276 College Composition</td>
<td>4</td>
</tr>
<tr>
<td>HPPC 1002 Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>HPPC 1004 Pharmacology</td>
<td>1</td>
</tr>
</tbody>
</table>

Accepted Substitutes:
The combination of BIOL 1250 General Biology I, BIOL 1260 Anatomy and Physiology I, and BIOL 1270 Anatomy and Physiology II may be used as substitution for BIOL 1240 Health and Disease in the Human Body.

Developmental courses may be required depending on educational background and/or assessment scores.

Acceptance in the Practical Nursing program is required prior to taking any PRSG Courses.

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRSG 1110 Foundations of Practical Nursing</td>
<td>3</td>
</tr>
<tr>
<td>PRSG 1200 Nursing Care of the Adult Theory I</td>
<td>4</td>
</tr>
<tr>
<td>PRSG 1300 Medication Administration for the PN</td>
<td>3</td>
</tr>
<tr>
<td>PRSG 1410 Human Development Across the Lifespan</td>
<td>2</td>
</tr>
<tr>
<td>PRSG 1500 Clinical Lab I</td>
<td>4</td>
</tr>
<tr>
<td>PRSG 2100 Nursing Care of the Adult Theory II</td>
<td>4</td>
</tr>
<tr>
<td>PRSG 2210 Psychosocial Nursing Care</td>
<td>2</td>
</tr>
<tr>
<td>PRSG 2220 Nursing Care of Women Infants and Children</td>
<td>2</td>
</tr>
<tr>
<td>PRSG 2410 Transition to Practice</td>
<td>2</td>
</tr>
<tr>
<td>PRSG 2660 Clinical Lab II</td>
<td>4</td>
</tr>
</tbody>
</table>

Diploma Credits

41

Additional Requirements:

The following additional requirements must be completed prior to application (outside certification will be considered)

1. Student must be in current good standing on the Minnesota or Wisconsin Nursing Assistant Registry
2. Documentation of current CPR for the Health Care Provider or CPR for the Professional Rescuer
3. Completion of required Criminal Background Checks
4. Clinical site physicals/immunizations
5. Student must have GPA of 2.0 in prerequisite courses to apply for the program.
6. Students must meet minimum benchmarks on entrance exam prior to acceptance into the program.

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of C or better in all courses. The requirements of this program are subject to change without notice.

Effective Fall Semester 2018

Approved by MCCC: 10/2/2013, 3/13/2018, and 11/21/2018

Approved by Minnesota State Board: 10/2/2013 and 3/13/2018

Internally Updated: 3/15/2013

Human Services Eligibility Worker – Associate of Applied Science

Diploma (40 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1277 Technical Communications or ENGL 1276 College Composition</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SOC 1125 Human Diversity</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSEW 1205 Introduction to the HSEW Role</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 1205 Worker Skill</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 1230 Public Assistance Policy 1</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 1235 Eligibility Systems 1</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 2230 Public Assistance Policy 2</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 2235 Eligibility Systems 2</td>
<td>4</td>
</tr>
<tr>
<td>HSEW 2290 Internship</td>
<td>6</td>
</tr>
</tbody>
</table>

Diploma Credits

40

Additional Requirements:

Admission to the Associate of Applied Science degree requires completion of the Human Services Eligibility Worker Diploma within the 12 months prior or an active login ID in the Minnesota Department of Human Services Eligibility System(s).

Effective Fall Semester 2013

Approved by MCCC: 10/2/2013

Approved by Minnesota State Board: 3/15/2013

Internally Updated: 3/15/2013

Note:

- Acceptance in the Practical Nursing program is required prior to taking any PRSG Courses.

- Additional Requirements:

  - 1. Student must be in current good standing on the Minnesota or Wisconsin Nursing Assistant Registry
  - 2. Documentation of current CPR for the Health Care Provider or CPR for the Professional Rescuer
  - 3. Completion of required Criminal Background Checks
  - 4. Clinical site physicals/immunizations
  - 5. Student must have GPA of 2.0 in prerequisite courses to apply for the program.
  - 6. Students must meet minimum benchmarks on entrance exam prior to acceptance into the program.

  Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

  A student must attain a grade of C or better in all courses. The requirements of this program are subject to change without notice.

  Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

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  A student must attain a grade of C or better in all courses. The requirements of this program are subject to change without notice.
Individualized Studies

Diploma 45 Credits
Associate in Applied Science (A.A.S.) 60 credits
Associate in Science (A.S.) 60 Credits

Program Description
The purpose of the individualized studies degree is to provide students with the opportunity to specialize in two or more academic areas. As more industry partners and students identify niche needs and skills, these flexible degree options provide the rigor and focus needed for individual student’s career goals that are not represented in other degree offerings. This flexible degree program requires consultation with an industry representative and Pine Technical College faculty to assist in course selection for a coherent program of study that meets industry needs.

Transfer Opportunities
The College of Individualized Studies at Metropolitan State University has developed an articulation agreement that will accept into to transfer any A.A.S. or A.S. degree into their Bachelor of Arts Individualized Studies program.

Curriculum
A student who in consultation with the student’s advisor determines an unusually specialized program is appropriate to meet the student’s career goals will work with the advisor to plan an individualized studies program that reflects the student’s professional and personal goals. After the initial consultation, the student will construct with an advisor, other faculty, and industry representatives a degree plan that meets both the requirements of MinnState’s “Design Criteria for Undergraduate Individualized Programs” policy and Pine Technical College’s requirements for a degree.

Once the required procedures are completed, the degree plan will be filed with the Registrar.

Procedure:
The following are the procedures for an individualized studies degree:

- The student will contact his/her advisor with a preliminary plan for degree development
- In consultation with the student, the advisor will identify other possible faculty and/or industry representatives to further assist the student in degree planning
- The advisor will assist the student in the development of the proposal; the proposal must include justification for specialization and a list of courses which meet the individualized studies degree requirement
- The student will obtain the approval and signature of the Department Chair from each department the student lists courses for the proposed degree and from involved industry partners
- After obtaining the Department Chair(s) signature(s), the student will obtain the approval and signature of the Chief Academic Officer

---

Diploma 45 credits
Curriculum Design
- Multidisciplinary: Minimum of 9 credits required in at least 2 unrelated areas of study
- Interdisciplinary: Minimum of 9 credits in at least 2 thematically related areas of study
- Intradisciplinary: Minimum of 32 credits from one area of study

A.A.S. 60 credits
Curriculum Design
- Multidisciplinary: Minimum of 9 credits required in at least 2 unrelated areas of study
- Interdisciplinary: Minimum of 9 credits in at least 2 thematically related areas of study
- Intradisciplinary: Minimum of 32 credits from one area of study

A.S. 60 credits
Curriculum Design
- Multidisciplinary: Minimum of 9 credits required in at least 2 unrelated areas of study
- Interdisciplinary: Minimum of 9 credits in at least 2 thematically related areas of study
- Intradisciplinary: Not applicable; requirements defined by the articulation agreement
Computer Programming – Associate of Applied Science

Associate of Applied Science (60 Credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1277 Technical Communications or ENGL 1276 College Composition</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1260 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1220 Human Ethics</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1270 Introduction to Speech</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>4</td>
</tr>
<tr>
<td>Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.</td>
<td></td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCP 1201 Computer Concepts and Applications</td>
<td>2</td>
</tr>
<tr>
<td>COCP 1209 Workstation Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>COCP 1213 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>COCP 1236 Java Programming I</td>
<td>4</td>
</tr>
<tr>
<td>COCP 1237 Java Programming II</td>
<td>4</td>
</tr>
<tr>
<td>COCP 1231 Web Development I</td>
<td>3</td>
</tr>
<tr>
<td>COCP 1278 Data Structures in C</td>
<td>3</td>
</tr>
<tr>
<td>COCP 2212 Android Development I</td>
<td>3</td>
</tr>
<tr>
<td>COCP 2258 Project Management</td>
<td>3</td>
</tr>
<tr>
<td>COCP 2261 Web Development II</td>
<td>3</td>
</tr>
<tr>
<td>COCP 2269 Emerging Programming Technologies</td>
<td>3</td>
</tr>
<tr>
<td>COCP 2272 Programming Relational Databases</td>
<td>3</td>
</tr>
</tbody>
</table>

Subtotal: 23 credits

Associate of Applied Science Credits: 60 credits

Additional Requirements:

- Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

- A student must attain a grade of 'C' or better in MATH and all technical courses with a final cumulative GPA of 2.0 or higher to graduate.

Cyber-Security - Associate of Applied Science

Cyber-Security Diploma (33 credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1260 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1277 Technical Communications or ENGL 1276 College Composition</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 1220 Human Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCP 1201 Computer Concepts and Applications</td>
<td>2</td>
</tr>
<tr>
<td>COCP 1209 Workstation Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>COOP 1211 Network Security</td>
<td>3</td>
</tr>
<tr>
<td>COOP 1212 Networking Fundamental</td>
<td>3</td>
</tr>
<tr>
<td>COOP 1214 Network Switching &amp; Routing</td>
<td>3</td>
</tr>
<tr>
<td>COOP 1250 Computer Hardware &amp; Software Support</td>
<td>3</td>
</tr>
<tr>
<td>COOP 2230 Linux Administration</td>
<td>3</td>
</tr>
<tr>
<td>CSEC 2310 Network Intrusion</td>
<td>3</td>
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</tbody>
</table>

Diploma Credits: 33 credits

Cyber-Security AAS Degree (27 additional credits)

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SPCH 1250 Intercultural Communications or SPCH 1270 Introduction to Speech</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 1213 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>COOP 1253 Microsoft Server Operating System</td>
<td>3</td>
</tr>
<tr>
<td>COOP 2258 Project Management</td>
<td>3</td>
</tr>
<tr>
<td>CSEC 2312 Emerging Technologies</td>
<td>3</td>
</tr>
<tr>
<td>CSEC 2310 Advanced Network Defense</td>
<td>3</td>
</tr>
<tr>
<td>CSEC 2330 Security Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits: 60 credits

Additional Requirements:

- Developmental courses may be required depending on education background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

- A student must attain a grade of ‘C’ or better in designated (*) courses and final cumulative GPA of 2.0 or higher to graduate.
Network Administration Associate of Applied Science

Certificate (26 credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1260</td>
<td>College Algebra</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BUSN 1110</td>
<td>Introduction to Business</td>
</tr>
<tr>
<td>Credits: 3</td>
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</tr>
<tr>
<td>COCP 1201</td>
<td>Computer Concepts and Applications</td>
</tr>
<tr>
<td>Credits: 2</td>
<td></td>
</tr>
<tr>
<td>COCP 1209</td>
<td>Workstation Operating Systems</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1211</td>
<td>Network Security</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1212</td>
<td>Network Fundamentals</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1213</td>
<td>Introduction to Programming</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1250</td>
<td>Computer Hardware &amp; Software Support</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1253</td>
<td>Microsoft Server Operating System</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
</tbody>
</table>

Certificate Credits: 26

Associate of Applied Science (34 additional credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1276</td>
<td>College Composition</td>
</tr>
<tr>
<td>Credits: 4</td>
<td></td>
</tr>
<tr>
<td>or ENGL 1277</td>
<td>Technical Communications</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>PHIL 1220</td>
<td>Human Ethics</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>SPCH 1270</td>
<td>Introduction to Speech</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>General Education Elective</td>
<td></td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
</tbody>
</table>

Technical Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCP 1210</td>
<td>Helpdesk</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1214</td>
<td>Network Switching and Routing</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 1231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 2204</td>
<td>Windows Server Administration</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 2230</td>
<td>Linux Administration</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>COCP 2250</td>
<td>Computer and Information Security</td>
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<td>Credits: 3</td>
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</tr>
<tr>
<td>COCP 2258</td>
<td>Project Management</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
</tbody>
</table>

Associate of Applied Science Credits: 60

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in all courses and a final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.

American Sign Language Studies - Certificate

Certificate (18 Credits)

General Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCH 1270</td>
<td>Introduction to Speech</td>
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<tr>
<td>Credits: 3</td>
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</table>

Subtotal: 3

Technical Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LASL 1205</td>
<td>American Sign Language I</td>
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<td>Credits: 3</td>
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<tr>
<td>LASL 1265</td>
<td>American Sign Language II</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
<tr>
<td>LASL 2270</td>
<td>American Sign Language III</td>
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<td>Credits: 3</td>
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<td>LASL 2275</td>
<td>American Sign Language IV</td>
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<td>Credits: 3</td>
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<tr>
<td>LASL 2210</td>
<td>Fingerspelling &amp; Numbers</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
</tr>
</tbody>
</table>

Certificate Credits: 18

Additional Requirements:

Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

A student must attain a grade of 'C' or better in technical education courses and final cumulative GPA of 2.0 or higher to graduate. The requirements of this program are subject to change without notice.
### Minnesota Transfer Curriculum (MnTC) (40 credits)

#### General Education Courses

<table>
<thead>
<tr>
<th>MnTC Goal Area 1 Communications</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 courses: (<em>DGNS Composition and / or DSFM or DCDNM</em>)</td>
<td>10-11</td>
</tr>
</tbody>
</table>

- Credits for a course will count in ONLY one goal area
- A listed course may count only once in Goal Areas 1 through 6, AND once in Goal Areas 7-10
- See your advisor for clarification

#### MnTC Goal Area 2 Natural Science

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8</td>
</tr>
</tbody>
</table>

- 2 courses: different disciplines

#### MnTC Goal Area 4 Mathematical/Logical Reasoning

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
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</tbody>
</table>

- 1 course

#### MnTC Goal Area 5 History, Social Science, and Behavioral Sciences

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

- 2 courses: different disciplines

#### MnTC Goal Area 6 Humanities and the Fine Arts

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

- 2 courses: different disciplines

#### MnTC Goal Area 7 Human Diversity

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

- 1 course

#### MnTC Goal Area 8 Global Perspectives

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

- 1 course

#### MnTC Goal Area 9 Ethical and Civic Responsibility

<table>
<thead>
<tr>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

- 1 course

#### MnTC Goal Area 10 People and the Environment

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-4</td>
</tr>
</tbody>
</table>

- 1 course

#### MnTC Credits

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
</tr>
</tbody>
</table>

#### Liberal Arts and Sciences Associate of Arts (20 additional credits)

#### General Education Courses

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

#### One of the following:

- COCP 1201 Computer Concepts & Applications (2 credits)
- BUSN 1120 Business Computer Applications (2 credits)

- One course from CRDV 1200 Advanced Career Exploration (2 credits)

#### General or Technical Education Courses

<table>
<thead>
<tr>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-17</td>
</tr>
</tbody>
</table>

#### Associate of Arts Degree Credits

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

### Additional Requirements:

- Associate of Arts Degree requires completion of a total of 60 semester credits numbered 1000 or above; minimum of 40 general education credits completing the Minnesota Transfer Curriculum; cumulative GPA of 2.0 or higher.
- Developmental courses may be required depending on education background and/or assessment scores.
- Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.

- Students transferring in 15 college credits from any accredited college who have successfully completed each of these courses with a “C” or better within three years would not be required to take the FTEx course. Students transferring a one-credit first year experience course would not be required to take our course and be able to address missing credit due to the way we went up our program plan (1-5 credits in the required course section).

### Associate of Arts/MnTC Transfer Program Plan 2019-2020

**Students are strongly encouraged to develop an educational plan in consultation with an advisor to ensure that degree and transfer pre-major requirements are fulfilled.**

#### Goal Area Type Course # Class Title Cr Fall Spr Sum Notes Personal Tracking

<table>
<thead>
<tr>
<th>Goal Area</th>
<th>Type</th>
<th>Course #</th>
<th>Class Title</th>
<th>Cr</th>
<th>Fall</th>
<th>Spr</th>
<th>Sum</th>
<th>Notes</th>
<th>Personal Tracking</th>
</tr>
</thead>
</table>

#### MnTC Goal Area 1 Communication

- 3 courses
- *DGNS 1276* Technical Communication (3 credits)
- *DGNS 1277* Historical Communication (3 credits)
- *DGNS 1278* Interpersonal Communication (3 credits)

#### MnTC Goal Area 2 Critical Thinking

- 3 courses
- *DGNS 1261* Science of Critical Thinking (3 credits)
- *DGNS 1262* Human Anatomy and Physiology I (3 credits)
- *DGNS 1263* Human Anatomy and Physiology II (3 credits)

#### MnTC Goal Area 3 Natural Science

- 3 courses:
  - *DGNS 1235* Heat Treating & Metallurgy (3 credits)
  - *DGNS 1236* Measuring Tools (3 credits)
  - *DGNS 1237* Office Measuring Tools (3 credits)

#### MnTC Goal Area 4 Mathematical/Logical Reasoning

- 1 course
- *DGNS 1238* Mathematical Thinking (4 credits)

#### MnTC Goal Area 5 History, Social Science, and Behavioral Sciences

- 3 courses from two different disciplines
- *DGNS 1239* World History Since 1500 (3 credits)
- *DGNS 1240* American History (3 credits)
- *DGNS 1241* American Government and Politics (3 credits)

#### MnTC Goal Area 6 Humanities and the Fine Arts

- 2 courses from two different disciplines
- *DGNS 1242* Introduction to Visual Arts (3 credits)
- *DGNS 1243* Introduction to Creative Writing (3 credits)

#### MnTC Goal Area 7 Human Diversity

- 1 course
- *DGNS 1244* Introduction to Women’s Studies (3 credits)

#### MnTC Goal Area 8 Global Perspectives

- 1 course
- *DGNS 1245* Introduction to Economics (3 credits)

#### MnTC Goal Area 9 Ethical and Civic Responsibility

- 1 course
- *DGNS 1246* Introduction to Ethics (3 credits)

#### MnTC Goal Area 10 People and the Environment

- 1 course
- *DGNS 1247* Introduction to Natural History (3 credits)

### Technical Education Courses

- *DGNS 1248* Manufacturing Technology (3 credits)

### Required Technical Courses

- *DGNS 1249* Manufacturing Technology (3 credits)

### Minnesota Transfer General Education Electives

<table>
<thead>
<tr>
<th>Goal Area</th>
<th>Type</th>
<th>Course #</th>
<th>Class Title</th>
<th>Cr</th>
<th>Fall</th>
<th>Spr</th>
<th>Sum</th>
<th>Notes</th>
<th>Personal Tracking</th>
</tr>
</thead>
</table>

### Developmental courses may be required depending on educational background and/or assessment scores. Developmental courses do not fulfill graduation requirements and are required as prerequisites for some courses. The requirements of this program are subject to change without notice.
The requirements of this program are subject to change without notice. Courses do not fulfill graduation requirements and are required as prerequisites for some courses.

**Courses**

**Discipline........................................... Abbreviation**

ACCOUNTING ............................................. ACCP
AMERICAN STUDIES.................................. AMST
ANTHROPOLOGY ..................................... ANTH
ART ....................................................... ARTS
AUTOMOTIVE .......................................... ATMP
BIOLOGY ................................................ BIOL
BUSINESS ............................................. BUSN
EARLY CHILDHOOD DEVELOPMENT ............... CDEV
CHEMISTRY ............................................ CHEM
360° PRODUCTION TECHNOLOGIES ............... CMAE
COMPUTER & INFORMATION SCIENCES ........... COCP
CYBER-SECURITY .................................... CSEC
ECOLOGY .............................................. ECOL
ECONOMICS .......................................... ECON
EMT ...................................................... EMT
ENGLISH ............................................... ENGL
ENVIRONMENTAL SCIENCE ......................... ENSC
FIRST YEAR EXPERIENCE ............................. FYEX
GENERAL STUDIES ................................... CRDV
GUNSMITHING ........................................ GSTP
HEALTH CARE CORE CURRICULUM ................. HCCP
HEALTH CARE PRE-PROFESSIONAL ............... HPPC
HISTORY .................................................. HIST
HUMAN SERVICE ELIGIBILITY WORKER .......... HSEW
AMERICAN SIGN LANGUAGE ......................... LASL
MATH ..................................................... MATH
MEDICAL ASSISTANT ................................ MEDA
MACHINE TECHNOLOGY .............................. MTTP
NURSING ASSISTANT ................................. HEOP
NURSING ............................................... NURS
PHILOSOPHY .......................................... PHIL
PHYSICS ................................................ PHYS
POLITICAL SCIENCE .................................. POLS
PRACTICAL NURSING ............................... PRSG
PSYCHOLOGY ......................................... PSYC
READING ............................................... READ
SOCIOLOGY .......................................... SOCI
SPANISH ............................................... SPAN
SPEECH ............................................... SPCH
WELDING .............................................. WELD

Students are strongly encouraged to develop an educational plan in consultation with an advisor to ensure that degree and transfer pre-major requirements are fulfilled.

**Goals Areas**

**Human Diversity 1 course**

**Global Perspectives 1 course**

**Ethical and Civic Responsibility 1 course**

**People and the Environment 1 course**

**Other Required Courses (5-11 additional credits)**

Meet with Advisor and Review:

**Date**

**Term**

**Year**

**Advisor**

**Advisor Initials**

Courses designated with a superscript denote the other corresponding goal area. The superscript denotes the other corresponding goal area.

The Minnesota Transfer Curriculum is the result of a collaborative effort by all of the two and four-year public colleges and universities in Minnesota to define a common philosophy toward general education. The goal of this effort is to help students transfer their work in general education. Completion of a Minnesota Transfer Curriculum at one institution enables a student to receive credit for all lower-division general education upon admission to any other institution.

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Accounting (ACCP)

ACCP 1216 – Payroll Accounting (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment. Co-Requisite: none
This course covers the various state and federal laws pertaining to the computation and payment of salaries and wages. Topics include preparation of employment records, payroll registers, time cards, employee earnings records, and state and federal reports. Transfer Curriculum Goal(s): none

ACCP 1231 – Business Math (3 credits)
Prerequisite: MATH 0250 Math Concepts or placement determined by assessment. Co-Requisite: none
This course covers the application of mathematical functions to the solution of business problems using a 10-key calculator. The course is designed to provide a balance between the conceptual understanding of the terminology and rules of math and their application to personal and business related problems. Transfer Curriculum Goal(s): none

ACCP 1258 – Computerized Spreadsheets (2 credits)
Prerequisite: none. Co-Requisite: none
This course instructs students in the theories and practical applications using current spreadsheet software program. Topics include creation and formatting of spreadsheets and charts, solving problems using absolute and relative references in formulas, working with financial tools and functions, connecting to external data, performing what-if analysis, working with tables, PivotTables, and PivotCharts, and managing multiple worksheets and workbooks. Transfer Curriculum Goal(s): none

ACCP 1260 – Computerized Accounting (3 credits)
Prerequisite: none. Co-Requisite: none
This course is an introduction to computerized accounting applications and software used in business today. Topics include general ledger accounting, payroll, accounts receivable, accounts payable, and inventory. Transfer Curriculum Goal(s): none

ACCP 2110 – Financial Accounting (4 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment. Co-Requisite: none
Students will learn the concepts of financial accounting through the measurement, communication, and analysis of economic events for the benefit of investors, creditors, and other external users of financial accounting information. Emphasis is on the preparation and analysis of financial statements in corporate and annual reports. Transfer Curriculum Goal(s): none

ACCP 2120 – Managerial Accounting (4 credits)
Prerequisite: ACCP 2110 Financial Accounting (with a “C” or better). Co-Requisite: none
This course introduces the foundations of managerial accounting. The emphasis is on management's use of accounting information for planning, controlling, and decision making. Topics covered include cost behavior, an overview of job order and process costing, cost-volume-profit analysis, budgeting, cost analysis, and capital budgeting decisions. Transfer Curriculum Goal(s): none

ACCP 2250 – Intermediate Accounting I (4 credits)
Prerequisite: ACCP 2110 Financial Accounting (with a “C” or better). Co-Requisite: none
This course covers the objectives of financial reporting; the role of the FASB and its primary activities; a review of the processing and reporting of financial data; preparation of the financial statements and the analysis of the statements; and the operating activities of a business. Transfer Curriculum Goal(s): none

ACCP 2260 – Cost Accounting I (4 credits)
Prerequisite: ACCP 2120 Managerial Accounting. Co-Requisite: none
This course covers accounting for materials, labor, and factory overhead in a manufacturing entity. Topics include the accountant's role in cost accounting, cost terms and purpose, cost-volume analysis, job costing, activity based costing and management, master and flexible budgets, inventory costing and capacity analysis, cost behavior, decision making and relevant information, and pricing decisions and cost management. Transfer Curriculum Goal(s): none

ACCP 2265 – Income Taxes (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment. Co-Requisite: none
This course provides an explanation and interpretation of the Internal Revenue Code as applied to individual and business tax returns. Topics include filing requirements, filing status, gross income, inclusions and exclusions, business income and expenses, itemized deductions and other incentives, credits and special taxes, accounting period and methods, capital gains and losses, withholding, estimated taxes, and payroll taxes,
partnership taxation, corporate income tax, and tax administration and planning. Transfer Curriculum Goal(s): none

ACCP 2290 – Accounting Comprehensive Review (3 credits)
Prerequisite: ACCP 1216 Payroll Accounting, ACCP 2250 Intermediate Accounting I. Co-Requirement: none
This course serves as a capstone course covering financial accounting, business law, managerial accounting, taxation, and ethics. It is also designed to prepare the student for the Accredited Business Accountant/Advisor (ABA) examination, administered by the Accreditation Council for Accountancy and Taxation (ACAT). ACAT is an affiliate of the National Society of Accountants. This course should be taken in the student's last semester of residency. Transfer Curriculum Goal(s): none

American Studies (AS)

AMST 1200 – Popular Culture and American Social Dynamics (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment. Co-Requirement: none
This course examines the influence of popular culture and the development of American society. Students will explore the dynamics of popular culture and its influence on and reflection of American social roles through focusing on key texts from a variety of media. Transfer Curriculum Goal(s): 6, 7

AMST 1205 – Significance of the Environment in American History (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment. Co-Requirement: none
This course will explore the meaning and importance of the environment in the history of the United States. Ultimately, students will discover both the American environment's pervasive power and its contradictions. They will learn that it is through the environment that Americans have cultivated philosophical ideas like liberty, equality, and opportunity. Students will also explore the literal and figurative properties of the American landscape that have served as a rationale for exploitation, colonization, and subjugation. Transfer Curriculum Goal(s): 5, 10

Anthropology (ANTH)

ANTH 1200 – Introduction to Anthropology (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment. Co-Requirement: none
This course presents students with an introduction to the discipline of anthropology, including an overview of the diversity of human culture from both biological and cultural perspectives. In addition, students will examine the four sub-disciplines of the field: cultural anthropology, linguistics, physical anthropology, and archaeology. Transfer Curriculum Goal(s): 5, 8

Art (ARTS)

ARTS 1229 – Introduction to the Visual Arts (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment. Co-Requirement: none
This course is an introduction to the essential concepts, styles, and forms of Western and non-Western visual arts, and the variety of manners in which art is understood. The students will learn the appreciation of art through studying the principles, techniques and materials of design, the popular and historical development of art, art criticism and aesthetic awareness. Transfer Curriculum Goal(s): 6

Applied Engineering (AENG)

AENG 1201 – Geometric Design and Tolerancing & Metrology (3 credits)
Prerequisites: none. Co-Requirements: none
Students in this course become familiar with blueprint reading and creation, and gain a working knowledge of Geometric Design and Tolerancing (GD&T). Students will learn how to effectively communicate design intent to the manufacturing and quality team. Interoperation of symbols, general rules, datum system and bonus tolerances are also covered in this course. Transfer Curriculum Goal(s): none

AENG 1231 – Material & Manufacturing Process (3 credits)
Prerequisites: none. Co-Requirements: none
This course will explore the field of materials will be explored and the fundamental principles of engineering materials will be introduced including mechanical, chemical and physical properties, and their measurement. Students will learn basic manufacturing processes with an emphasis on machine tool process, conventional lathe and milling machines, casting and
molding, hot and cold forming, measuring equipment, and quality control. Transfer Curriculum Goal(s): none

**AENG 1241 – Introduction to Statics** (3 credits)

*Prerequisites:* MATH 1260 College Algebra. *Co-Requisites:* none

This course introduces the concepts of engineering based on forces in equilibrium. Students will learn the concepts of concentrated forces, distributed forces, forces due to friction, and inertia as they apply to machines, structures, and systems. Students will solve problems that require the ability to analyze systems of forces in static equilibrium. Transfer Curriculum Goal(s): none

**AENG 1250 – Applied Engineering Design Project** (3 credits)

*Prerequisites:* MTTP 1241 Introduction to Computer Aided Design; AENG 1201 Geometric Design and Tolerancing & Metrology. *Co-Requisites:* none

This course allows students to develop their professional competency by designing a simple system or mechanism. Students are expected to work independently and ask for help when needed. The project concludes with a presentation of the work performed and the learning accomplished during the project. Transfer Curriculum Goal(s): none

**AENG 2210 – Reverse Engineering** (3 credits)


In this course students will be introduced to reverse engineering methodology through practical projects. Students will learn and apply reverse engineering techniques to integrate with computer software to duplicate an electronic part for export to Computer Aided Design (CAD) software. The reverse engineering processes and procedures will be documented throughout the project. Transfer Curriculum Goal(s): none

**AENG 2212 – Prototyping** (3 credits)

*Prerequisite:* WELD 1501 Introduction to Welding, MTTP 1201 Basic Machine Shop, and MTTP 1241 Introduction to Computer Aided Design. *Co-Requisite:* none

In this course students will be introduced to prototyping methodology through practical projects. Students will use rapid prototyping techniques to integrate with computer software to produce a physical model of a part. Students will be introduced to several prototyping techniques and use various machine tools and 3D printing in order to create a prototype of a part. The prototyping processes and procedures will be documented throughout the project. Transfer Curriculum Goal(s): none

**AENG 2220 – Machine Design & Kinematics** (3 credits)

*Prerequisite:* AENG 1241 Introduction to Statics. *Co-Requisite:* none

This course covers machine design concepts and the study of the motion of objects and how they relate to machines. Students will apply mathematics, science and engineering to design systems and select components and processes to meet desired needs within realistic constraints. Transfer Curriculum Goal(s): none

**AENG 2230 – Manufacturing Project Management** (3 credits)

*Prerequisite:* ENGL 1276 College Composition or ENGL 1277 Technical Communications. *Co-Requisite:* none

This course will introduce students to the processes of project planning from the early stages of brainstorming through completion. Students will learn to create timetables, write project proposals, and manage resources, all leading to project implementation. Students will learn to select a project appropriate to their field of study and apply project planning techniques and software. Transfer Curriculum Goal(s): none

**AENG 2241 – Advanced Computer Aided Design (CAD)** (3 credits)

*Prerequisites:* MTTP 1241 Introduction to Computer Aided Design (CAD) *Co-Requisite:* none

This course covers advanced design concepts including how to use multibody solids, surfacing, and advanced software capabilities. Students will learn advanced CAD techniques used for casting and molding such as draft, rib creation, and tool design, as well as the basics of finite element analysis using the integrated solver. Transfer Curriculum Goal(s): none

**AENG 2250 – Applied Engineering Capstone** (3 credits)

*Prerequisites:* Instructor Approval. *Co-Requisites:* none

This course allows students to develop professional competency through a project in their chosen focus area. Within this project students will apply skills attained from prior courses: system design (CAD), prints (GD&T), material selection, and project management. Students will be required to take an idea from concept to a production-ready state. Students are expected to work independently. Transfer Curriculum Goal(s): none
Automation (ETEC)

ETEC 1520 – Introduction to Robotics (2 credits)
*Prerequisite:* CMAE 1514 Safety Awareness. *Co-Requisite:* none
This course introduces students to the field of Robotics and Automation through the exploration of industrial robot operation and programming, sensors, drivers, controllers, kinematics, safety, troubleshooting, integration, mechanisms and gearing, imaging, and measurement. A major project component and hands-on labs provide experience with real world robotics components and concepts. Transfer Curriculum Goal(s): none

ETEC 1541 – Mechanical Systems (3 credits)
*Prerequisite:* READ 0220 Reading Strategies and MATH 0250 Math Concepts or placement determined by assessment score. *Co-Requisite:* none
This course covers mechanical systems utilized in robotic and automated equipment. Students will learn to identify, install, maintain, and repair typical mechanical parts and assemblies such as gears, bearings, housings, slides, racks, linkages, pistons, seals, belts, and fixture elements. Transfer Curriculum Goal(s): none

ETEC 1550 – DC Power (3 credits)
*Prerequisite:* Placement determined by college ready assessment scores. *Co-Requisite:* none
This course covers the basic principals 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. Transfer Curriculum Goal(s): none

ETEC 1551 – Programmable Logic Controllers 1 (3 credits)
*Prerequisite:* READ 0220 Reading Strategies and MATH 0250 Math Concepts or placement determined by assessment score. *Co-Requisite:* None
This course introduces the programmable logic controller (PLC) and how it is used to control automated equipment. Students will learn basic PLC programming (using ladder logic), control wiring, labeling, and documentation of simple automated systems. Transfer Curriculum Goal(s): none

ETEC 1552 – AC Power (3 credits)
*Prerequisite:* CMAE 1514 Safety Awareness and ETEC 1550 DC Power. *Co-Requisite:* none
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. Transfer Curriculum Goal(s): none

ETEC 1558 – Motor Controls (3 credits)
*Prerequisite:* CMAE 1514 Safety Awareness and ETEC 1550 DC Power. *Co-Requisite:* none
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 for basic electricity by designing, building, and troubleshooting more complex circuits. Devices such as contactors, motor-starters, relays, timers, mechanical, and proximity switches are used. Electronic motor controls and programmable devices such as variable frequency drives are introduced. Transfer Curriculum Goal(s): none

ETEC 1559 – Motor Controls 2 (3 credits)
*Prerequisite:* ETEC 1551 Programmable Logic Controllers 1. *Co-Requisite:* none
This course will introduce students to design and program graphical user interfaces to control industrial automated systems. Students will create operator interface stations for local cell operators to provide input, control, and production information. Students will also create necessary complementary code and driver setup for the required controller communications. Transfer Curriculum Goal(s): none

ETEC 1550 – Automated Systems 1 (3 credits)
*Prerequisite:* CMAE 1514 MSSC Safety, CMAE 1550 DC Power, ETEC 1541 Mechanical Systems, and ETEC 1551 Programmable Logic Controllers 1. *Co-Requisite:* None
This course allows students to develop professional competency in their chosen focus area by working on a semester long project. Students will be required to safely construct, test, and troubleshoot a working automated system. Students are expected to work independently and to ask for help when needed. The project concludes with a presentation of the work performed and the learning accomplished during the project. Transfer Curriculum Goal(s): none
ETEC 2500 – Advanced Technical Skills (variable credits)
Prerequisite: Instructor permission. Co-requirement: none
This course allows students to build on their current course work to advance technical skills. Students are required to complete projects that hone their skills in a knowledge area. Based on these projects, students will develop learning modules, such that students are able to serve as examples to other students for those particular skill areas. Module content and scope must be approved by the instructor. Students may take the course for 1 or 2 credits per semester up to a total of 4 course credits. Transfer Curriculum Goal(s): none

ETEC 2520 – Robotics Controllers (3 credits)
Prerequisite: ETEC 1520 Introduction to Robotics or instructor permission. Co-requirement: none
This course explains the architecture and programming of various controllers used in the industry including PLCs. Students will be introduced to basic controller architecture, microcontroller architecture and programming, programmable logic controller (PLC) architecture and programming, and to basic integration concepts such as wiring, routing, labeling, schematic reading and basic troubleshooting. Transfer Curriculum Goal(s): none

ETEC 2522 – Fluid Power (2 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0250 Math Concepts or placement determined by assessment score. Co-requirement: none
This course covers fluid power systems used in industry. Students will learn hydraulic and pneumatic concepts, components, control, and maintenance practice as well as gain safe exposure to valves, regulators, hoses and tubing, couplings, and pneumatic and hydraulic pumps. In addition they learn to read common schematic symbols for fluid power systems. Transfer Curriculum Goal(s): none

ETEC 2524 – Robotic Operations (3 credits)
Prerequisite: ETEC 2520 Introduction to Robotics or instructor permission. Co-requirement: none
This course covers topics in the operation of robotic and automated systems. Industrial robot topics include kinematics and singularities, trajectory control, and path optimization. Students will be introduced to mobile robot control through the integration of sensors and actuators and microcontroller programming. Content also introduces PLC integration concepts such as motor control, sensors and actuators, and Supervisory Control and Data Acquisition (SCADA). Transfer Curriculum Goal(s): none

ETEC 2542 – Motor Control II (3 credits)
Prerequisite: CMAE 1558 Motor Controls or instructor permission. Co-requirement: none
This course covers advanced topics in motor control. The student will learn 3 phase DC brushless motor control concepts. Semiconductor devices and digital logic will be studied prior to learning microcontroller motor control. Algorithms for motor control will be implemented in a current microcontroller. Transfer Curriculum Goal(s): none

ETEC 2543 – Programmable Logic Controllers 2 (3 credits)
Prerequisite: ETEC 1551 Programmable Logic Controllers 1. Co-requirement: none
This course develops more advanced topics of programmable logic controller (PLC) integration. Students will learn proper programming, integration, wiring, labeling, and documentation of complete robotic and automated work cells. Supervisory Control and Data Acquisition (SCADA) concepts are covered as well as high voltage procedures, legal requirements, and best practices. Transfer Curriculum Goal(s): none

ETEC 2545 – Networking Systems (2 credits)
Prerequisite: CMAE 1554 Digital Electronics or instructor permission. Co-requirement: none
This course covers networking systems used in today’s robotics and automation systems. Students will learn overall network structure; concepts in signal generation, transmission, and reception; the Open Systems Interconnection (OSI) model; legacy and modern networking standards and systems; and testing and troubleshooting industrial automation network issues. Transfer Curriculum Goal(s): none

ETEC 2550 – Advanced Robotics (4 credits)
Prerequisite: ETEC 2524 Robotic Operations. Co-requirement: none
This course provides an advanced understanding of industrial robotics and automation and provides a fundamental understanding of mobile and medical robotics. Students will become competent in integrating low voltage electronics with high voltage electrical controls in accordance with the Robotics Industries Association standards (ANSI/RIA R15.06-1999), the National Electrical Code (NEC NFPA 70), and the Underwriters Laboratory (UL 1740, 2011) standards. They will complete a project that requires analysis of a process, the integration of robotic/automated systems to implement the process, an assessment of safety, and evaluation of the results. Transfer Curriculum Goal(s): none
ETEC 2552 – Robotics Capstone Project (3 credits)
Prerequisite: Instructor Permission. Co-Requisite: none
This course allows students to develop their professional competency in their chosen focus area by working on a semester long project. Students will be required to safely construct, test, and troubleshoot a working automated or robotic system. Students are expected to work independently and to ask for help when needed. The project concludes with a presentation of the work performed and the learning accomplished during the project.
Transfer Curriculum Goal(s): none

ETEC 2900 – Automated Systems Technology Capstone (4 credits)
Prerequisites: ETEC 1581 Automated Systems 1. Co-Requisite: none
This course allows students to develop professional competency in their chosen focus area by working on a semester-long project. Within this project students will apply skills attained from prior courses. Students will be required to safely construct, test, and troubleshoot a working automated system which will serve as a culmination of their work in the Automated Systems Technology Program. The project concludes with a presentation of the work performed and the learning accomplished during the project.
Transfer Curriculum Goal(s): none

Automotive (ATMP)

ATMP 1207 – Basic Electricity (3 credits)
Prerequisite: ENGL 0230 Writing Foundations, READ 0220 Reading Strategies, and MATH 0250 Math Concepts or placement by assessment score
Co-Requisite: none
This course provides students with the knowledge base for understanding basic electrical and electronic circuits, the use and recognition of standard terms and concepts, and application of Ohm’s Law. The student will safely build circuits, and make tests on voltages, amperages, and resistances. The student will analyze situations based on technical information, interpret specialized vocabulary, demonstrate understanding of measurement accuracy and tolerances, and apply step-by-step procedures.
Transfer Curriculum Goal(s): none

ATMP 1209 – Vehicle Service (3 credits)
Prerequisite: Must meet minimum placement score in reading
Co-Requisite: none
This course covers basic principles of automotive systems, safety, hand tools, maintenance requirements, and basic automotive service procedures. Students will learn and follow correct procedures for servicing vehicles, shop safety, use of service manuals and bulletins, and interpretation of vehicle specifications. Tube flaring, fasteners bearings, seals and use of shop equipment are discussed and utilized as applied to vehicle servicing.
Transfer Curriculum Goal(s): none

ATMP 1212 – Introduction to Automobile Technology (3 credits)
Prerequisite: None. Co-Requisite: none
This course introduces students to automotive careers. Students considering the automobile technician career field will have an opportunity to explore basic skills and education needed for the automotive occupation. In addition, principles of operation for automotive systems, shop safety and use of service information are emphasized.
Transfer Curriculum Goal(s): none

ATMP 1219 – Brakes (3 credits)
Prerequisite: Must meet minimum placement score in reading
Co-Requisite: none
This course includes basic principles of brakes, hydraulic system basics, disc and drum brakes, parking brakes and power assist units. Students will diagnosis and repair various types of braking systems, including anti-lock brake systems.
Transfer Curriculum Goal(s): none

ATMP 1222 – Air Conditioning & Heating Systems (3 credits)
Prerequisite: ATMP 1207 Basic Electricity, ATMP 1223 Engine Electrical & Accessories.
Co-Requisite: none
This course covers theory, principles, operation, diagnosis, and repair of Air Conditioning (AC) and Heating systems. Students will learn the differences between the various AC types, the diagnosis of control door operation and malfunctions. Lab activities include recycling refrigerant, testing for sealants, testing for refrigerant type, evacuating, replacement of components, charging, and performance testing.
Transfer Curriculum Goal(s): none

ATMP 1223 – Engine Electrical & Accessories (6 credits)
Prerequisite: ATMP 1207 Basic Electricity. Co-Requisite: none
This course covers the theory and operation of engine electrical systems. The student will read electrical schematics; diagnose and repair starting, charging, ignition, and fuel systems. In addition, the student will safely diagnose and repair optional equipment and accessories.
Transfer Curriculum Goal(s): none
ATMP 1230 – Engines (6 credits)
_prerequisite: ENGL 0230 Writing Foundations, READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement by assessment score.
_co-requisite: none
This course introduces students to the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Transfer Curriculum Goal(s): none

ATMP 1243 – Drivetrain (3 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories, ATMP 1230 Engines. 
_co-requisite: none
This course introduces students to the theory, operation, and repair of manual transmissions, transfer cases, transaxles, and differentials. In addition, students will safely perform basic diagnosis and repair of manual and hydraulic clutches using appropriate tools, equipment, procedures, and service information. Transfer Curriculum Goal(s): none

ATMP 1248 – Automatic Transmissions (6 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories, ATMP 1230 Engines. 
_co-requisite: none
This course is designed to provide students with the basic knowledge in the diagnosis and repair of the automatic transmission. The student will develop skills necessary to perform in-car automatic transmission service. In addition, students will develop an understanding of the operation and service of torque converters, planetary gear trains and hydraulic components for front and rear-wheeled drive vehicles. In-car service, as well as, removal-installation and overhaul procedures will be stressed in the lab portion of this course. Transfer Curriculum Goal(s): none

ATMP 1255 – Fuel Systems (6 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories. 
_co-requisite: none
This course covers the theory and operating principles of automotive computers, sensors, and control devices for On Board Diagnostic (OBD) equipped vehicles. Students will develop skill in diagnosing, testing and correcting problems on OBD equipped vehicles. In addition, the course covers diagnosis and repair of fuel systems, including use of meters, and scan tools as well theory, operation and diagnosis of carbureted and fuel injection systems. They will use the Original Equipment Manufacturer (OEM) and generic scan tools and will document use of each scan tool during repairs. Transfer Curriculum Goal(s): none

ATMP 1261 – Alternative Fuels (1 credit)
_prerequisite: AMTP 1209 Vehicle Service. 
_co-requisite: ATMP 1207 Basic Electricity; ATMP 1230 Engines (1st half of semester prior to this course)
This course explores the global impact of alternative fuels and vehicles. Students will be introduced to alternative vehicle designs. In addition, students will learn about biofuels and electric hybrid powered vehicle repair. Safety when repairing the electrical systems on electrical hybrid vehicles is emphasized. Transfer Curriculum Goal(s): none

ATMP 1265 – Chassis (6 credits)
_prerequisite: ATMP 1209 Vehicle Service, ATMP 1219 Brakes. 
_co-requisite: none
This course includes basic principles of operation of chassis or suspension systems and wheel alignment factors. Students will test, diagnosis, service or replace various suspension and steering systems—chassis components. After completing repairs, students will perform vehicle alignments according to manufacture instruction to be checked by instructor or designee. Transfer Curriculum Goal(s): none

ATMP 1275 – Wiring and Electrical Diagnosis (3 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories, ATMP 1230 Engines. 
_co-requisite: none
This course reinforces and enhances the students skills in automotive electrical troubleshooting. Topics include the servicing and repair techniques of chassis and electrical wiring, lights, and instruments. Additional topics include headlight aiming and how to read and interpret wiring diagrams. Students will be introduced to the use of scan tools for diagnosis of electrical malfunctions. Transfer Curriculum Goal(s): none

ATMP 1281 – General Shop (4 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories, ATMP 1265 Chassis. 
_co-requisite: none
This course enables students to specialize in one or more areas of automotive expertise. Students will consult with instructors to determine specialized or general repair projects. In addition, students will explore topics related to current shop practices. Transfer Curriculum Goal(s): none

ATMP 1289 – Scan Tools (3 credits)
_prerequisite: ATMP 1223 Engine Electrical & Accessories. 
_co-requisite: none
This course covers vehicle electronics diagnosis and repair with Original Equipment Manufacturer (OEM) and Generic Scan Tools. Students will learn
the intricacies of the various scan tools and utilize them to navigate screens to diagnose multiple processors. Transfer Curriculum Goal(s): none

**Biology (BIOL)**

**BIOL 1217 – Nutrition and Wellness** (3 credits)
**Prerequisite:** READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment. **Co-Prerequisite:** none
This is a multi-disciplinary course designed to focus on various aspects of nutrition and provide a broad overview of the factors that impact personal and environmental wellness. Specifically, students will learn about energy requirements, body composition analysis, macro and micro nutrients, environmental toxicities, nutritional deficiencies, and nutrition as it relates to health and chronic disease treatment and prevention. In addition, students will explore the effects of human activity upon our society in relation to current food and environmental concerns. Topics may include environmental and nutritional implications of food processing, genetic modification, and current agricultural practices. Transfer Curriculum Goal(s): 10

**BIOL 1240 – Health and Disease in the Human Body** (4 credits)
**Prerequisite:** READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment. **Co-Prerequisite:** none
This course is an introduction to general anatomy and physiology. Students will learn basic disease processes and body systems including: integumentary, skeletal, muscular, nervous system, cardiovascular system, immune system, respiratory system, urinary system, and digestive system, endocrine and reproductive systems. The laboratory component emphasizes lecture content and includes dissections and experiments in physiology. Transfer Curriculum Goal(s): 3, 9

**BIOL 1250 – General Biology I** (4 credits)
**Prerequisite:** READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment. **Co-Prerequisite:** none
This course presents students with the organic chemistry of life, cellular organization in plants and animals, diversity of cells from prokaryotic to eukaryotic systems, physics and chemistry of photosynthesis, chromosomal and molecular basis of inheritance, microbiology, genetics of viruses and bacteria, and introduces basic evolutionary processes. The lab component emphasizes lecture content and application of the scientific method. Transfer Curriculum Goal(s): 2, 3

**BIOL 1251 – General Biology II** (4 credits)
**Prerequisite:** BIOL 1250 General Biology I. **Co-Prerequisite:** none
This course presents students with an introduction to living organisms with an emphasis on the basic mechanisms and concepts in organismal biology, ecology, and evolutionary biology. Topics include taxonomy and classification of the major groups of plants and animals, structure and function, development, and behavior. The lab component emphasizes lecture content and application of the scientific method. Transfer Curriculum Goal(s): 2, 3

**BIOL 1255 – Microbiology** (3 credits)
**Prerequisite:** BIOL 1250 General Biology I. **Co-Prerequisite:** none
This course presents students with the classification, structure, and function of microbes. Emphasis is on disease-causing bacteria, viruses, protozoa, and fungi, physical and chemical methods of control, microbial genetics, host defenses, and applications in medicine. The lab component focuses on basic microbiology laboratory techniques: use of the microscope for viewing microbes, staining techniques, bacterial morphology and staining patterns, preparation of media culture, and microbial identification techniques. Transfer Curriculum Goal(s): 2, 3

**BIOL 1260 – Human Anatomy and Physiology I** (4 credits)
**Prerequisite:** BIOL 1250 General Biology I (Prerequisite can be taken concurrently). **Co-Prerequisite:** none
This course introduces students to human anatomy and physiology. Students will learn tissues and body systems including: integumentary, skeletal, muscular, nervous, and endocrine systems. In addition, students will study integrated control mechanisms of physiology. The laboratory component includes dissections and experiments in physiology to emphasize lecture material. Transfer Curriculum Goal(s): 2, 3

**BIOL 1262 – Biology of Humans** (4 credits)
**Prerequisite:** BIOL 1250 General Biology I. **Co-Prerequisite:** none
This course is designed for women and men, and provides a “theme based” course for learning biological concepts. Objectives include studying reproductive anatomy and physiology of both genders, studying pregnancy and fetal development, and examining issues related to reproductive biology and women’s physical health. Students will examine issues including contraception, cancer, menopause, and the relationship of women to the health care system. Additional topics covered may also include ethical decision-making, medical autonomy, genetic engineering, stem cell research, use of animals in research, organ donation, the human genome
project, examination of issues related to reproductive biology and women's physical health or other current critical issues. The laboratory component covers microscopy, scientific method, study of the cell, genetics, mitosis and meiosis, aspects of human anatomy and physiology and topics of reproduction. Transfer Curriculum Goal(s): 3, 9

**BIOL 1263 – Critical Issues in Human Biology** (4 credits)
*Prerequisite:* READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment score. *Co-Requisite:* none
This course presents students with information on critical and ethical issues related to how the human body functions. Topics such as ethical decision-making, genetic engineering, living wills, and issues related to prevention of cancer will be examined. The course will build the biological framework for understanding these dilemmas by exploring the scientific method and human body systems. Additional topics may cover medical autonomy, genetic engineering, stem cell research, use of animals in research, organ donation, the human genome project, examination of issues related to reproductive biology and women's physical health or other current critical issues. The lab component covers microscopy, scientific method, study of cell, genetics, mitosis and meiosis, aspects of human anatomy and physiology, and topics of reproduction. Transfer Curriculum Goal(s): 3, 9

**BIOL 1270 – Human Anatomy & Physiology II** (4 credits)
*Prerequisite:* BIOL 1260 Human Anatomy and Physiology I. *Co-Requisite:* none
This course continues the study of body structure and function; incorporating principles of chemistry, biochemistry and molecular biology. Students will learn the cardiovascular, immune, respiratory, urinary, digestive, and reproductive systems. The lab component includes dissections and experiments in physiology to emphasize lecture material. This course builds on principles covered in Anatomy and Physiology I. Transfer Curriculum Goal(s): 2, 3

**Business (BUSN)**

**BUSN 1110 – Introduction to Business** (3 credits)
*Prerequisite:* READ 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score. *Co-Requisite:* none
This course provides an overview of the world of business. Students will learn about the environment of business, including the economic, political/legal, socio-demographic, global, technological, and competitive aspects and how they impact organizations. The various functional areas of business (management, marketing, and finance) will be examined. Transfer Curriculum Goal(s): none

**BUSN 1119 – Directed Study in Business Computer Applications** (1 credit)
*Prerequisite:* COCP 1201 Computer Concepts and Applications and/or Instructor Approval. *Co-Requisite:* None
This course allows students to develop competency in the use of internet and e-mail software as it relates to the business environment. Students will learn to retrieve, evaluate, and synthesize information from the internet as well as how to use e-mail software to produce professional, effective communication in a business environment. Computer security and safety, ethics, and privacy concerns related to technology will also be integrated throughout the course. Transfer Curriculum Goal(s): none

**BUSN 1120 – Business Computer Applications** (3 credits)
*Prerequisite:* READ 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score. *Co-Requisite:* none
This course introduces computer terminology, hardware, and software as it relates to the business environment. Students will learn business productivity software applications such as word processing, spreadsheets, databases, and presentation graphics, as well as business-oriented internet use and the principles of professional behavior in computing. Transfer Curriculum Goal(s): none

**BUSN 1130 – Human Relations in Business** (3 credits)
*Prerequisite:* READ 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score. *Co-Requisite:* none
This course introduces human relations principles, methods, and skills applicable to management effectiveness and career success. Students will learn about principles and methods of organizational communication, professionalism, motivation, team building, conflict resolution, leadership, negotiation, cultural differences, and personal communication. Practical application and development of skills in these areas are emphasized throughout the course. Transfer Curriculum Goal(s): none
BUSN 1140 – Business Information Systems (3 credits)
Prerequisite: READ 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score
Co-Requisite: none
This course introduces students to computer-based information systems within business organizations. Students will learn the strategic and administrative roles of information systems in business and explore the applications of computers and information technology to advance the efficiency and effectiveness of individuals, groups, and organizations. Transfer Curriculum Goal(s): none

BUSN 2210 – Legal Environment of Business (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course introduces students to the fundamentals of the court and legal system. Students will explore property law, contracts, uniform commercial code, agency, employer/employee relationships and negotiable instruments. In addition, students will study the legal aspects of the different forms of business partnership, corporations, and legal liability companies. Transfer Curriculum Goal(s): none

BUSN 2220 – Principles of Marketing (3 credits)
Prerequisites: ENGL 1276 College Composition or ENGL 1277 Technical Communications and BUSN 1110 Introduction to Business and BUSN 1120 Business Computer Applications. Co-Requisite: none
This course will explore the principles of marketing strategy planning, including target market and marketing mix variables, with emphasis on key strategy decisions in each area. Students will learn organizational marketing activities including consumer behavior, marketing research, social/cultural perspectives, legal and ethical issues, and environmental influences. The course will also cover implementation, control, marketing’s link with other functional areas, and the challenges and opportunities that exist for marketers. Transfer Curriculum Goal(s): none

BUSN 2230 – Principles of Management (3 credits)
Prerequisites: ENGL 1276 College Composition or ENGL 1277 Technical Communications and BUSN 1110 Introduction to Business and BUSN 1120 Business Computer Applications. Co-Requisite: none
This course is a comprehensive study of managerial functions (planning, organizing, leading, and controlling) for the purpose of achieving organizational goals. Students will learn about motivation, leadership, organizational structure, team dynamics, decision-making, ethics, social responsibility, and global competition. Transfer Curriculum Goal(s): none

Early Childhood Development (CDEV)

CDEV 1200 – Introduction to Early Childhood Education (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement by assessment score. Co-Requisite: none
This course provides an overview of the early childhood field, including philosophies, missions, and regulations. Students will examine the roles, responsibilities and job requirements of professionals in a variety of career settings, positive communication and relationships with families. Transfer Curriculum Goal(s): none

CDEV 1210 – Child Growth and Development (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
This course examines the major developmental milestones for children, both typical and atypical, from conception through adolescence in the areas of physical, social, emotional, language, cognitive and aesthetic/creative development. While studying developmental theory and investigative/observational research methods, students will observe children and analyze characteristics of development at various stages. The course emphasizes interactions between maturational processes and environmental factors. Transfer Curriculum Goal(s): none

CDEV 1222 – Health, Safety and Nutrition (3 credits)
Prerequisite: none. Co-Requisite: none
This course is an introduction to the regulations, standards, policies, and procedures, prevention techniques, and early childhood curriculum related to health, safety, and nutrition. Students will identify components that ensure physical health, mental health, and safety for both children and staff, 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. Transfer Curriculum Goal(s): none

CDEV 1230 – Positive Child Guidance (3 credits)
Prerequisite: None. Co-Requisite: none
11/9/11: This course examines positive strategies to guide children’s behavior in the early childhood setting. Students will examine ways to establish supportive relationships with children and guide them, in order
to enhance learning, development, and well-being. Transfer Curriculum Goal(s): none

CDEV 1240 – Working with Diverse Families and Children (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
The course examines the relationship between the educator and the child's family. Students will explore strategies to maintain an open, friendly, and cooperative relationship with families, involving families in early care and education programs and effectively conducting parent-teacher conferences. Community organizations and networks that support families will be identified. 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. Transfer Curriculum Goal(s): none

CDEV 1252 – Observation and Assessment (3 credits)
Prerequisite: CDEV 1210 Child Growth and Development, CDEV 1230 Positive Child Guidance. Co-Requisite: none
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. The students will explore recording strategies, rating systems, multiple assessment tools and portfolios. 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. Transfer Curriculum Goal(s): none

CDEV 1270 – Infant-Toddler Development and Learning (3 credits)
Prerequisite: CDEV 1210 Child Growth and Development
This course covers infant/toddler theory and development in home or center-based settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective care giving, teaching strategies and observation methods. Transfer Curriculum Goal(s):

CDEV 1290 – Special Topics (variable credit 1-4)
Prerequisite: Instructor Permission. Co-Requisite: none
This course provides an opportunity for students to apply knowledge and skills in an actual child care or early education setting. Students will design course goals along with the instructor on targeted areas of knowledge and skill development. Instructor Permission required. Offered On Demand. Transfer Curriculum Goal(s): none

CDEV 1340 – Learning Environment and Curriculum (4 credits)
This course presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children. Students will examine 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. An overview of content areas including (but not limited to): physical/motor experiences, language and literacy, social and emotional learning, sensory learning, art and creativity, math and science will be covered. Transfer Curriculum Goal(s): none

CDEV 2510 – Practicum I (3 credits)
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. Transfer Curriculum Goal(s):

CDEV 2530 – Children with Challenging Behaviors (3 credits)
This course will help students understand children’s behavior problems and challenges and identify intervention strategies to prevent and resolve problem behavior, use behavior modification effectively and design behavior plans. Transfer Curriculum Goal(s): none

CDEV 2610 – Organizational Leadership and Management (2 credits)
Prerequisite: CDEV 1200 Introduction to Early Childhood Education, CDEV 1210 Child Growth and Development, CDEV 1222 Health, Safety and Nutrition, CDEV 1230 Positive Child Guidance, CDEV 1340 Learning Environment and Curriculum, CDEV 1252 Observation and Assessment,
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CDEV 2640 Working with Diverse Families and Children, Instructor Permission. Co-Requisite: none
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. Students will improve skills in working with others demonstrating strategies for team building, coping with stress, problem-solving, utilizing professional ethics and procedures for evaluating staff. Transfer Curriculum Goal(s): none

CDEV 2620 – Children with Differing Abilities (3 credits)
This course 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, and cultivate partnerships with families who have children with developmental differences. Transfer Curriculum Goal(s): none

CDEV 2640 – Curriculum Planning (3 credits)
This course provides an advanced level exploration of curriculum planning and management skills. Students will integrate their knowledge of developmental needs, developmentally appropriate environments, practices, curricula and teaching methods to organize, implement, and evaluate quality, comprehensive curricula. Curricula models from both within and outside the United States will be explored. Transfer Curriculum Goal(s): none

CDEV 2810 – Practicum II (3 credits)
Prerequisite: CDEV 2510 Practicum I, CDEV 1252 Observation and Assessment, CDEV 2640 Curriculum Planning, Instructor Permission Co-Requisite: none
This course provides an opportunity to apply knowledge and skill in an early childhood setting. Students implement a variety of learning experiences that are developmentally appropriate for and culturally sensitive to a specific age and group of children. Transfer Curriculum Goal(s): none

Chemistry (CHEM)

CHEM 1210 – Concepts of Chemistry (4 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0365 Algebra Concepts or placement determined by assessment score. Co-Requisite: none
This course is a broad introduction to chemistry. It is intended for the non-science major. No previous chemistry experience is required. The course emphasizes the scientific method and introduces basic concepts and principles of chemistry including general properties of matter, atomic structure and theory, chemical bonding and chemical reactions. This course includes lab experiences that emphasize observation, collection, organization, and analysis of data. Transfer Curriculum Goal(s): 3

CHEM 1250 – Principles of Chemistry I (4 credits)
Prerequisite: READ 0220 Reading Strategies, MATH 0365 or placement determined by assessment score. Co-Requisite: none
This is the first course in a two-course introduction to chemistry. This course students will learn the basic concepts of chemistry including: atomic theory and structure, periodic properties of the elements, chemical bonding, the behavior of gases, liquids, solids and solutions, chemical nomenclature, chemical reactions and equations, and enthalpy changes associated with chemical reactions. Quantitative laboratory experiments will emphasize observation, organization of data, data analysis. This course is intended for students who need to fulfill a course in general chemistry for a variety of majors including liberal arts requirements, nursing, and health science. Transfer Curriculum Goal(s): 2, 3

CHEM 1251 – Principles of Chemistry II (4 credits)
Prerequisite: CHEM 1250 Principles of Chemistry I. Co-Requisite: none
This is the second course in a two-course introduction to chemistry. In this course, students will learn the basic concepts of chemistry including: stoichiometry, chemical bonding, molecular structure, the behavior of gases, liquids, solids and solutions, chemical equilibria, chemical kinetics, chemical
nomenclature, chemical reactions and equations, and an introduction to organic, polymer, and nuclear chemistry. Quantitative laboratory experiments will emphasize observation, organization of data, and data analysis. Transfer Curriculum Goal(s): 2, 3

360° Production Technologies (CMAE)

CMAE 1502 – Technical Mathematics (3 credits)
Prerequisite: Accuplacer score- Arithmetic 45 or higher and Accuplacer Reading comprehension score of 52 or higher. Co-Requisite: none
This is an introductory technical math course. The course is for students who have basic math skills and for those who need basic technical math concepts. The primary goals of this course are to help individuals acquire a solid foundation in the algebra and geometry used in a technical setting. This course will show how these skills can model and solve authentic real-world problems. Transfer Curriculum Goal(s): none

CMAE 1506 – Introduction to Computers (2 credits)
Prerequisite: Accuplacer score – Reading 52 or higher. Co-Requisite: none
This is an introductory course in Microsoft Office computer applications for technical fields. The primary goal of this course is to help individuals acquire a hands-on working knowledge of current personal computer applications including word-processing, spreadsheets, database, presentation, and internet browser software. Transfer Curriculum Goal(s): none

CMAE 1510 – Print Reading (2 credits)
Prerequisite: Accuplacer score – Reading 52 or higher. Co-Requisite: none
This course will give students an understanding of basic mechanical drawing principles. Topics include the alphabet of lines, arrangement of views, orthographic projections, scaling, dimensioning, tolerancing, and symbols. Students will read and interpret mechanical drawings. Transfer Curriculum Goal(s): none

CMAE 1514 – Safety Awareness (2 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course aligns with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Safety. The curriculum is based upon federally-endorsed national standards for production workers including Occupational Safety Health Association (OSHA) standards relating to personal protective equipment, Hazardous Material (HAZMAT), tool safety, confined spaces, and others. Transfer Curriculum Goal(s): none

CMAE 1518 – Manufacturing Processes & Production (2 credits)
Prerequisite: Accuplacer score – Reading 52 or higher. Co-Requisite: none
This course aligns with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Manufacturing Processes. This curriculum is based upon federally-endorsed national standards of production workers emphasizing lean manufacturing principles, basic supply chain management, communication skills, and customer service. Transfer Curriculum Goal(s): none

CMAE 1522 – Quality Practices (2 credits)
Prerequisite: Accuplacer score – Reading 52 or higher. Co-Requisite: none
This course aligns with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Quality Practices. The curriculum is based upon federally-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 including, corrective actions, preventative actions, control of documents, control of quality records, internal auditing or processes, and control of non-conforming product. Transfer Curriculum Goal(s): none

CMAE 1526 – Maintenance Awareness (2 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0250 Math Concepts or placement by assessment score. Co-Requisite: none
This course aligns with the Manufacturing Skill Standards Council’s (MSSC) assessment and certification system for Maintenance Awareness. The curriculum is based upon federally-endorsed national standards for production workers. The course introduces the concepts of total productive maintenance and preventative maintenance with the fundamental principles of lubrication, electricity, hydraulics, pneumatics, and power transmission systems. Transfer Curriculum Goal(s): none

CMAE 1528 – Career Success Skills (1 credit)
Prerequisite: Accuplacer score – Reading 52 or higher. Co-Requisite: none
This is an introductory career success skills course. The primary goal of this course is to help individuals acquire a solid foundation in basic skills for a successful career. This course will identify the skills important to businesses and help the student assess their level of skill. The course will provide suggestions for how the student can improve level of skill. Transfer Curriculum Goal(s): none
CMAE 1530 – 360 Degree Machining Math (2 credits)
Prerequisite: CMAE 1502 Technical Mathematics. Co-Prerequisite: none
This course is designed for students in a machine shop environment. The primary goal of this course is 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. Transfer Curriculum Goal(s): none

CMAE 1532 – Machine Tool Print Reading (2 credits)
Prerequisite: CMAE 1510 Print Reading. Co-Prerequisite: none
This course covers the principles of mechanical print reading. Course includes sketching, lines, dimensioning and tolerancing, and single/multi-view drawings. Transfer Curriculum Goal(s): none

CMAE 1534 – Machine Tool Technology Theory (2 credits)
Prerequisite: CMAE 1530 Machining Math, CMAE 1532 Machine Tool Print Reading. Co-Prerequisite: none
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 is a blended on-line Course utilizing Tooling “U” and D2L. Transfer Curriculum Goal(s): none

CMAE 1536 – Machine Tool Technology Lab I (2 credits)
Prerequisite: CMAE 1534 Machine Tool Technology Theory. Co-Prerequisite: none
This course will address the setups and operation of a drill press, 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. In addition, students will learn the care and use of inspections and layout tools. Transfer Curriculum Goal(s): none

CMAE 1538 – Machine Tool Technology Lab II (2 credits)
Prerequisite: CMAE 1536 Machine Tool Technology Lab I. Co-Prerequisite: none
This course will address the advanced operations of a drill press, vertical milling machine, engine lathe, surface grinder and saws. Machine safety, 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. Transfer Curriculum Goal(s): none

CMAE 1540 – Introduction to CNC (3 credits)
Prerequisite: CMAE 1536 Machine Tool Technology Lab I. Co-Prerequisite: None
This online course is an introduction to Computer Numeric Controlled (CNC) Machining. The focus on CNC machining centers will include the history of CNC machining, G & M codes, programming, set-up and operating procedures. Transfer Curriculum Goal(s): none

CMAE 1542 – Geometric Dimensioning and Tolerancing (2 credits)
Prerequisite: CMAE 1532 Machine Tool Print Reading. Co-Prerequisite: None
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 Y 14.5 M standard will be part of the overall instruction. Using precision equipment most of the geometric controls will be inspected to print specifications. Transfer Curriculum Goal(s): none

CMAE – 1550 DC Power (3 credits)
Prerequisite: CMAE 1502 Technical Mathematics or placement by College Algebra. Co-Prerequisite: none
This course covers the basic principals 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 stressed. Transfer Curriculum Goal(s): none

CMAE 1552 – AC Power (3 credits)
Prerequisite: CMAE 1502 Technical Mathematics or placement by College Algebra. Co-Prerequisite: None
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. Transfer Curriculum Goal(s): none

CMAE 1554 – Digital Electronics (3 credits)
Prerequisite: CMAE 1502 Technical Mathematics or placement by College Algebra. Co-Prerequisite: none
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. Transfer Curriculum Goal(s): none

CMAE 1556 – Analog Circuits (3 credits)
Prerequisite: None. Co-Requisite: CMAE 1550 DC Power, CMAE 1552 AC Power, CMAE 1554 Digital Electronics
This course covers diodes, power supplies, transistor operation, biasing, and specifications along with amplifier configuration and applications. It also covers operational amplifier operations, applications, and related circuitry. Troubleshooting, design, and circuit analysis are emphasized. Transfer Curriculum Goal(s): none

CMAE 1558 – Motor Controls (3 credits)
Prerequisite: CMAE 1514 Safety Awareness and CMAE 1550 DC Power
Co-Requisite: CMAE 1552 AC Power
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 for Basic Electricity by designing, building, and troubleshooting more complex circuits. Devices such as contactors, motor-starters, relays, timers, mechanical, and proximity switches are used. Electronic motor controls and programmable devices such as variable frequency drives are introduced. Transfer Curriculum Goal(s): none

CMAE 1560 – Interpreting Symbols (2 credits)
Prerequisite: none. Co-Requisite: none
This course examines 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. 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. Transfer Curriculum Goal(s): none

CMAE 1562 – Oxyfuel Welding and Cutting Process (3 credits)
Prerequisite: None. Co-Requisite: none
This course covers the use of oxy-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. Transfer Curriculum Goal(s): none

CMAE 1564 – Shielded Metal Arc Welding (SMAW) (3 credits)
Prerequisite: None. Co-Requisite: none
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. Transfer Curriculum Goal(s): none

CMAE 1566 – Gas Metal Arc Welding (GMAW)/Flux Cored Arc Welding (FCAW) (3 credits)
Prerequisite: CMAE 1564 Shielded Metal Arc Welding (SMAW).
Co-Requisite: none
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. Transfer Curriculum Goal(s): none
CMAE 1568 – Gas Tungsten Arc Welding (GTAW) (3 credits)
Prerequisite: CMAE 1564 Shielded Metal Arc Welding, CMAE 1566 Gas Metal Arc Welding, CMAE 1570 Metallurgy and Mechanical Properties of Materials
Co-Requisite: none
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. Transfer Curriculum Goal(s): none

CMAE 1570 – Metallurgy and Mechanical Properties of Materials (1 credit)
Prerequisite: None. Co-Requisite: none
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. Transfer Curriculum Goal(s): none

Computer & Information Sciences (COCP)

COCP 1201 – Computer Concepts and Applications (2 credits)
Prerequisite: None. Co-Requisite: none
This course provides an introduction to computer concepts and applications commonly used in college. Topics include basic hardware components, use of email and the internet and on online safety, operating systems and file systems, cloud storage, word processing and formatting, spreadsheets and charts, and presentation software. Transfer Curriculum Goal(s): none

COCP 1209 – Workstation Operating System (3 credits)
Prerequisite: ENGL 0230 Reading Strategies, READ 0220 Writing Foundations, MATH 0250 Math Concepts or placement by assessment score
Co-Requisite: None
In this course, students learn to install, configure, administer, and support the current version of Microsoft Windows workstation operating system (OS). Topics covered include: workstation installation, user management and permissions, file system management, and print services. In advanced workstation configuration and connection, troubleshooting, and network support are also covered. Transfer Curriculum Goal(s): none

COCP 1210 – Help Desk Concepts (1 credit)
Prerequisite: COCP 1201. Co-Requisite: none
This course is designed to provide students with an understanding of the help desk environment and the knowledge, skills, and abilities necessary to work in the user support industry. It is useful for both the person who is starting out in the user support industry, as well as the person who is an experienced professional. The course places an emphasis on problem solving and communication skills, in addition to the technical aspects of user support. Through hands-on exercises and case projects, students apply their knowledge and develop their ideas and skills. Class discussion topics include help desk concepts, processes and procedures, tools and technologies, performance and measures, and customer support strategies. Students work individually and in teams to prepare them for today’s team-oriented work environment. Transfer Curriculum Goal(s): none

COCP 1211 – Network Security (3 credits)
Prerequisite: COCP 1212 Networking Fundamentals, COCP 1209 Workstation Operating Systems. Co-Requisite: none
In this course, students learn general security concepts including authentication methods, cryptography basics, and how to recognize how to safeguard against common network attacks. Students will learn to create secure communications for remote access, e-mail, the Internet, directory and file transfer, and wireless communications. In addition, students will develop an appreciation for and plan for the implementation of physical security and disaster recovery. Transfer Curriculum Goal(s): none

COCP 1212 – Networking Fundamentals (3 credits)
Prerequisite: ENGL 0230 Writing Foundations; READ 0220 Reading Strategies; MATH 0250 Math Concepts Math Concepts or placement by assessment score. Co-Requisite: None
In this course students build a basic foundation of knowledge in current networking technology for local area networks (LANs). Students learn basic computer networking terms and concepts such as topologies, transmission media, protocols, network addressing and basic network design and configuration. Transfer Curriculum Goal(s): none
COCP 1213 – Introduction to Programming (3 credits)
Prerequisite: ENGL 0230 Writing Foundations; READ 0220 Reading Strategies; MATH 0250 Math Concepts or placement by assessment score
Co-Requisite: COCP 1201 MS Office Basics
This course provides an introduction to programming computers. Students will be introduced to programming concepts using a general-purpose programming language and will create simple programs with graphical user interfaces. Advanced system programming is explored. Students will create script files to handle administrative tasks in the Windows operating system. This course is suitable for students wishing to explore the computer programming field. Transfer Curriculum Goal(s): none

COCP 1214 – Network Switching and Routing (3 credits)
Prerequisite: COCP 1212 Network Fundamentals. Co-Requisite: None
In this course, students will learn the skills necessary to manage an existing network or implement a new one. This course provides them with knowledge of the building blocks used to operate networks and of advanced networking topics. Some of the topics covered are local area network (LAN) connectivity, access control lists (ACL), routing and routed protocols, network address translation (NAT), and virtual LANs (VLAN). Transfer Curriculum Goal(s): none

COCP 1231 – Web Development I (3 credits)
Prerequisite: ENGL 0230 Writing Foundations, READ 0220 Reading Strategies or placement by assessment score. Co-Requisite: none
This course is an introduction to the creation of Web pages. Topics covered are HTML and XHTML, Cascading Style Sheets (CSS), DOM, JavaScript and Ajax, plus evolving standards and ethics. An emphasis is placed on creating well-formed Web pages that are pleasant to look at and easy to use. Students will focus on client-side Web pages that can be created without a Web server. Transfer Curriculum Goal(s): none

COCP 1236 – Java Programming I (4 credits)
Prerequisite: COCP 1213 Introduction to Programming, or instructor permission. Co-Requisite: none
This course is an exploration of computer programming and software development using the Java programming language. Students are introduced to basic procedural programming including primitive data types, scalar and array variables, loops, conditional expressions, methods and parameters, and file handling. Students will create programs incorporating graphics and graphical user interfaces. In addition, pseudo-code is used to create programs implementing searching and sorting algorithms. Object oriented programming using Java classes will be introduced. Transfer Curriculum Goal(s): none

COCP 1237 – Java Programming II (4 credits)
Prerequisite: COCP 1236 Java Programming I. Co-Requisite: none
This course is the second course utilizing the Java programming language, focusing on object oriented techniques. Students will learn about Java classes, which are used to implement inheritance and interfaces, polymorphism, collections, and graphical user Interfaces. Students will create object oriented analysis and design documents using the Unified Modeling Language (UML). Transfer Curriculum Goal(s): none

COCP 1250 – Computer Hardware & Software Support (3 credits)
Prerequisite: ENGL 0230 Writing Foundations, READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement by assessment score
Co-Requisite: COCP 1201 Microsoft Office Basics
In this course, students learn to support personal computer (PC) hardware. Students will investigate how hardware operates and the relationship between hardware and the software used to support that hardware. Some of the topics covered include: the installation, configuration, support, and troubleshooting of system boards, CPUs, memory, video connections, floppy, optical, and hard drives, multimedia, and input/output devices. Transfer Curriculum Goal(s): none

COCP 1253 – Microsoft Server Operating System I (3 credits)
Prerequisite: COCP 1209 Workstation Operating Systems. Co-Requisite: none
This course provides students with the knowledge and skills necessary to install and configure a Microsoft Windows server and perform post-installation and day-to-day administrative tasks of an Active Directory domain. Students will gain an understanding of the Active Directory structure, users and groups, distributed files systems, resource permissions, remote access, server optimization, maintenance and troubleshooting, and user technical support. Transfer Curriculum Goal(s): none

COCP 1278 – Data Structures in C (3 credits)
Prerequisite: COCP 1237 Java Programming II. Co-Requisite: none
This course is an exploration of creating data structures in the C and C++ languages. Students will learn about arrays, structures, memory allocation, pointers, and file handling. Students will use classes and data abstraction, inheritance, polymorphism, operator overloading, templates and exception handling, along with linked lists, stacks, queues and binary trees. Proper coding style and testing techniques will be discussed. In addition, C++ will
be compared to its predecessor language C and a successor language, Microsoft’s C#. Transfer Curriculum Goal(s): none

**COCP 1404 – Discrete Mathematics (4 credits)**  
*Prerequisite:* MATH 1260 College Algebra or placement determined by assessment score. *Co-Requisite:* none  
This course is intended to give students studying computer science the mathematical foundation they will need for their future studies, however, it may be taken by students in a wide variety of majors, including mathematics and engineering. Students will study topics including logic, sets, functions, sequences, complexity of algorithms, number theory, matrices, methods of proof, mathematical induction, recursive algorithms, counting methods, discrete probability, relations, graphs, and tree fundamentals. Transfer Curriculum Goal(s): none

**COCP 2204 – Windows Server Administration (3 credits)**  
*Prerequisite:* COCP 1253 Microsoft Server Operating System  
*Co-Requisite:* none  
In this course, students acquire the advanced system administration skills necessary to manage Windows Server. They will learn to deploy and maintain servers, configure advanced file services, implement remote access and network access protection, set group policies, deploy and administrate Active Directory, and configure and troubleshoot Domain Name Service (DNS). In addition, students reinforce their learning with real world labs and projects. Transfer Curriculum Goal(s): none

**COCP 2212 – Android Development I (3 credits)**  
*Prerequisite:* COCP 1236 Java Programming I, COCP 2261 Web Development II. *Co-Requisite:* COCP 1237 Java Programming II, COCP 2272 Programming Relational Databases  
This course is an introduction to programming Android devices such as smartphones and tablets. Students will learn the Android development environment and will create simple applications. Flexible user interfaces appropriate for various devices will be developed using XML layouts. The activity life cycle, fragments, and use of intents will be explored. Data driven applications using files, XML and SQLite will be developed. The social and ethical issues of creating and deploying mobile applications and devices are discussed. Transfer Curriculum Goal(s): none

**COCP 2213 – Android Development II (3 credits)**  
*Prerequisite:* COCP 2212 Android Development I. *Co-Requisite:* None  
This course is a continuation of programming for Android devices. Students will learn how to incorporate advanced Android capabilities such as the use of cameras, sensors, and location-awareness into applications. The Android marketplace and the publishing, promotion and maintenance of applications will be explored. Transfer Curriculum Goal(s): none

**COCP 2230 – Linux Administration (3 credits)**  
*Prerequisite:* COCP 1212 Networking Fundamentals. *Co-Requisite:* none  
In this class, students learn to install, configure, maintain, administrate, and use features of the Linux operating system. By learning the Linux operating system, students will have a fundamental understanding of Unix. In addition, students will learn to download and install applications, configure users, groups and permissions, managing the various file systems, running Windows emulation, and the role of Linux in the enterprise network environment. Transfer Curriculum Goal(s): none

**COCP 2250 – Computer and Information Security (3 credits)**  
*Prerequisite:* COCP 1253 MS Server Operating System OR Knowledge of the fundamentals of networking technology and 1 year of computing networking experience with a strong background in TCP/IP. *Co-Requisite:* none  
This vendor-neutral course provides a comprehensive overview of network security, including general security concepts, communication security, infrastructure security, cryptography basics, and operational/organizational security. Lab exercises utilize server computers to gain real-world practice at securing networks—from ensuring authentication, configuring a VPN server, installing Service Packs and Hot Fixes, to securing applications such as e-mail, Web activity, and file transfer. The course will also include a section on how to educate and work with non IT-managers about the importance of locking down a network. Transfer Curriculum Goal(s): none

**COCP 2258 – Project Management (3 credits)**  
*Prerequisite:* ENGL 1276 College Composition or ENGL 1277 Technical Communications. *Co-Requisite:* none  
This course will introduce students to the processes of project planning from the early stages of brainstorming through planning. This includes creating timetables, managing resources, project implementation, along with the basics of writing project proposals. Students learn to select appropriate project planning techniques and software. During this course they will
plan and propose a project appropriate to their fields of study. Transfer Curriculum Goal(s): none

**COCP 2261 – Web Development II (3 credits)**  
Prerequisite: COCP 1231 Web Development I , COCP 1213 Introduction to Programming. Co-Requisite: none  
This course provides instruction in advanced technologies and programming in Web development, based on the server-side technologies PHP, Ajax and XML. Students will focus on handling forms, user responses, and dynamic Web pages. Transfer Curriculum Goal(s): none

**COCP 2262 – Web Content Management Systems (3 credits)**  
Prerequisite: COCP 2261 Web Development II  
Co-Requisite: COCP 2272 Programming Relational Databases  
This course provides an introduction into the development of web-based Content Management Systems (CMS), which are used to facilitate shared information. Students will learn about and compare several modern web development toolkits, such as Drupal, Joomla! and Ruby on Rails. Students will develop a full-featured CMS application that will be published into the web. Social and ethical issues of CMS and web sites will also be explored. Transfer Curriculum Goal(s): none

**COCP 2263 – Web App Security and Deployment (3 credits)**  
Prerequisite: COCP 2261 Web Development II. Co-Requisite: none  
This course explores security and deployment issues of web-based applications. Students will learn about HTML and database (SQL) injection, concerns related to the use of cookies and session variables, and issues with user authentication. Configuring web servers to support secured connections and certificates will be covered. The configuration of secured file systems and access controls to create secured web sites will also be explored. Social and ethical issues of web sites will be discussed. Transfer Curriculum Goal(s): none

**COCP 2269 – Emerging Programming Technologies (3 credits)**  
Prerequisite: COCP 1268 C/C++ Programming II  
Co-Requisite: COCP 2261 Web Development II  
This course explores the ever-evolving arena of programming technologies in new and novel fields. Students will focus on creating a project in one of the areas of advanced Web pages, mobile applications, applications for use by interactive social media, or advanced programming languages. The students explore trends in new technologies, adaptation and product life-cycles, and life-long learning skills. Transfer Curriculum Goal(s): none

**COCP 2272 – Programming Relational Databases (3 credits)**  
Prerequisite: COCP 2261 Web Development II or instructor permission Co-Requisite: none  
This course provides instruction in the creation and use of relational databases. Topics include database and table design, entity-relationship diagrams, normalization techniques, query processing, updates and inserts, database administration, concurrency, security, and the use of stored procedures. Relational databases are created using MySQL. PHP programming is introduced to update Web pages with data extracted from a MySQL database. Transfer Curriculum Goal(s): none

**COCP 2277 – Design of User Interfaces (3 credits)**  
Prerequisite: COCP 1231 Web Development I  
Co-Requisite: none  
This course focuses on human-computer interfaces and the design of user interfaces. Students will learn about accessibility, vision and other senses, interaction styles and input/output systems. The use of layout options, color, fonts, sound and haptics will be covered. Design and evaluation methods such as prototyping and user observations will be explored. Accessibility issues will be covered. Students will create projects based on their particular areas of interest in web design, computer applications or mobile applications. Transfer Curriculum Goal(s): none

**COCP 2403 – Computer Architecture (4 credits)**  
Prerequisite: COCP 1236 Java Programming I and MATH 0365 Algebra Concepts or placement by assessment score. Co-Requisite: None  
This course introduces basic structures of computer architecture. Students will learn machine language, digital logic and circuit design, data representation, conventional von Neumann architecture, instruction sets and formats, addressing, the fetch/execute cycle, memory architectures, I/O architectures, as well as hardware components, such as gates and integrated chips. Transfer Curriculum Goal(s): none

**Cyber-Security (CSEC)**

**CSEC 2310 – Network Intrusion (3 credits)**  
Prerequisite: COCP 1211 Network Security, COCP 1214 Network Switching and Routing, and COCP 2230 Unix Administration. Co-Requisite: None  
This course examines ethical hacking and information systems security auditing. Students will focus on the current security threats, advanced attack vectors, and practical real time demonstration of the latest hacking techniques, methodologies, tools, tricks, and security measures. The course
will explore pentesting (Penetration Testing), hacking and securing systems. The lab intensive environment provides student’s in-depth knowledge and practical experience with the current security systems. Foundational concepts include how perimeter defenses work and scanning and attacking networks. Students will learn how intruders escalate privileges and what steps can be taken to secure information technology system. Content topics include: intrusion detection, policy creation, social engineering, Distributed Denial-of-Service (DDoS) attacks, buffer overflows, and virus creation.
Transfer Curriculum Goal(s): none

CSEC 2312 – Emerging Technologies (3 credits)
Prerequisite: CSEC 2311 Computer Ethics, COCP 1212 Networking Fundamentals. Co-Requisite: None
This course allows students to develop their professional competency in emerging technologies. Students will research cutting edge and predicted emerging global technologies. After researching the technology, students will develop methods for applying and securing technology in a lab environment. Students will be required to design, deploy, manage, identify and fix security risks in a virtual network of their design. Transfer Curriculum Goal(s): none

CSEC 2320 – Advanced Network Defense (3 credits)
Prerequisite: COCP 1211 Network Security, COCP 1214 Network Switching and Routing. Co-Requisite: None
This course examines theoretical understanding of network security principles as well as the tools and configurations available. The course will emphasize the practical application of skills needed to design, implement, and support network security. Students will develop critical thinking and complex problem solving skills using simulation-based scenarios that promote the exploration of networking security concepts, allowing students to experiment with network behavior and ask “What if” questions. Students will be equipped with the knowledge and skills needed to prepare for entry-level security specialist careers. The course will cover modern network security threats, securing network devices, authentication, authorization and accounting, firewall technologies, intrusion prevention, cryptography, implementing virtual private networks, managing a secure network, and implementing the cisco adaptive security appliance. Transfer Curriculum Goal(s): none

CSEC 2330 – Security Capstone (3 credits)
Prerequisite: CSEC 2310 Network Intrusion. Co-Requisite: None
This course allows students to develop their professional competency in cyber-security by working on a semester-long project. Students will research the SysAdmin, Audit, Networking and Security (SANS) Institute 20 critical security controls. Using the SANS model, students will be required to design, deploy, manage, identify and fix security risks in a virtual network of their design. Transfer Curriculum Goal(s): none

Ecology (ECOL)

ECOL 1250 – Ecology (4 credits)
Prerequisite: Read 0220 Reading Concepts and MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisites: none
This course covers ecological concepts including physical factors of organisms, population regulation and interactions, nutrient cycling and energy flow, as well as community change and succession. Students will learn and apply ecological concepts to terrestrial ecoregions and aquatic environments to gain understanding of ecosystem function and implications for human use and management decisions. Natural and human disturbances of ecosystems and the concept of sustainability will also be within the concepts of ecology. The major biomes will be explored in relationship to these concepts, with an emphasis on regional ecosystems. Transfer Curriculum Goal(s): 3, 10

ECOL 1350 – Ecology of Minnesota Raptors (4 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisite: none
Ecology of Minnesota Raptors provides students with an opportunity to explore basic ecological principles as they apply to behavioral, population, and conservation ecology of regional birds of prey. In addition to exploring physiological and morphological adaptations that set raptors apart as a group, students will gain experience with analyzing technical literature, taxonomy, and species identification. The lab component emphasizes lecture content and application of the scientific method. Students will be required to attend two field trips to fulfill the requirements of the course. Transfer Curriculum Goal(s): 3, 10
Economics (ECON)

ECON 1230 – Principles of Macroeconomics (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
This course is an introduction to macroeconomics. Students will study demand and supply theory, fiscal and monetary policy, national income, and money and banking. Other topics they will explore include competing macroeconomic theories, the economic functions of government, and theories of taxation. This course has broad general education application but is especially appropriate for economics, accounting, and business majors.
Transfer Curriculum Goal(s): 5, 9

ECON 1250 – Principles of Microeconomics (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score.
Co-Requisite: none
This course covers supply and demand; market competition and monopoly; distribution of income; resource allocation and consumption; pricing; economic interdependencies in the global economy, and effects of global economy on individual decisions. Students will analyze microeconomic behavior of consumers, firms, and markets in domestic and world economy.
Transfer Curriculum Goal(s): 5, 8

EMT (EMT)

EMT 1715 – Emergency Medical Responder (3 credits)
Prerequisite: none. Co-Requisite: none
This Emergency Medical Responder course meets the curriculum guidelines set forth by the U.S. DOT, NHTSA, and the Minnesota State EMS Regulatory Board. The course reflects content of the EMR National Standard Curriculum. The goal is to provide students with the core knowledge, skills, and attitudes to function in the capacity of an Emergency Medical Responder.
The Emergency Medical Responder (EMR) course prepares individuals for employment in a variety of pre-hospital, industrial and first responder settings. The successful completion of an approved First Responder course is a pre-requisite to pursuing training as a Fire Fighter and many Law Enforcement programs. Transfer Curriculum Goal(s): none

EMT 1720 – Introduction to Emergency Medical Services (1 credit)
Prerequisite: none. Co-Requisite: none
This course introduces students to the career field of emergency medical services. Students will develop an understanding of this career field as well as learn skills in job-seeking and job-keeping. CPR certification is included in this course. Transfer Curriculum Goal(s): none

EMT 1725 – Emergency Medical Technician (6 credits)
Prerequisite: none. Co-Requisite: none
This Emergency Medical Technician (EMT) course will train the participant in the skills and knowledge needed to respond to medical and trauma emergencies and pass the core competencies and written exam of the National Registry EMT required for licensure. Students will be qualified to work as emergency room technicians, ambulance attendants, ski patrol, and firefighter-EMT. The course covers the US D.O.T. Emergency Medical Technician curriculum, which presents assessment-based education and interventions. Clinical hours are a part of this course. Medical direction for the EMT is an essential component of the curriculum to allow for the EMT to carry and assist with administration of medications to patients.
Transfer Curriculum Goal(s): none

EMT 1730 – Emergency Medical Technician Clinical (2 credits)
Prerequisite: EMT 1725 Emergency Medical Technician. Co-Requisite: none
This course will provide students with the opportunity to ride a minimum of 96 hours in a combination of Advanced Life Support (ALS) and Basic Life Support (BLS) ambulances. Students will learn to assist paramedics in performance of ALS skills and assessment while refining BLS assessment and skills. This course, in conjunction with Advanced Life Support Clinical and Emergency Medical Operations, meets the EMT guidelines of the National Registry of Emergency Medical Technicians and the Minnesota State EMS Regulatory Board. Transfer Curriculum Goal(s): none

EMT 1735 – Emergency Medical Operations (3 credits)
Prerequisite: none. Co-Requisite: none
This course will provide students the opportunity to acquire the skills and to apply the knowledge of operational roles and responsibilities of emergency medical operations professionals. Students will be required to ensure patient, public, and personal safety. Content topics include: incident management, multiple casualty incidents, hazardous materials, Emergency Medical Services response to terrorism, and disaster. Air rescue, landing zone set up, and scene size up will also be included. This course will prepare students to become ambulance attendants and firefighter-Emergency
Medical Technician. The US D.O.T. Emergency Medical Technician curriculum is incorporated into this course. In addition, the guidelines of the National Registry of Emergency Medical Technicians and the Minnesota State EMS Regulatory Board will be met with this course. Transfer Curriculum Goal(s):  none

English

**ENGL 0225 – Critical Reading and Writing Concepts** (5 credits)
*Prerequisite:* Placement determined by assessment score  
*Co-Requisite:* none
This course is designed to help students learn and develop critical reading skills necessary for comprehending, analyzing, and interpreting college-level material. Students will be introduced to a variety of genres, including fiction and non-fiction. In addition, this course covers the basic rules of Standard Written English. The course emphasis will be on sentence structure, grammar and usage, punctuation, vocabulary, spelling, writing style, and basic paragraph and essay form. Transfer Curriculum Goal(s): none

**ENGL 0230 – Writing Foundations** (4 credits)
*Prerequisite:* Placement determined by assessment score  
*Co-Requisite:* none
This course covers the basic rules of Standard Written English. The course emphasis is on sentence structure, grammar and usage, punctuation, vocabulary, spelling, writing style, and basic paragraph and essay form. The course is designed to prepare the student for College Level Writing. Transfer Curriculum Goal(s): none

**ENGL 1276 – College Composition** (4 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score.  
*Co-Requisite:* none
Students will learn the process of writing their ideas for an audience. The course will focus on the generation, organization and communication of ideas in expository essay forms based on experience, observation, and research, with an emphasis on argumentation, critical thinking, and rhetorical strategies. Mechanics and writing style will also be integrated throughout the course. Transfer Curriculum Goal(s): 1

**ENGL 1277 – Technical Communication** (4 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score.  
*Co-Requisite:* none
This course is designed to prepare students for writing in the workplace. Students will create a variety of documents, including memos, technical manuals, proposals, and reports. Emphasis will be placed on audience analysis, effective organization, document design, and readability. Transfer Curriculum Goal(s): 1

**ENGL 1280 – Introduction to Literature** (3 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score.  
*Co-Requisite:* none
This course presents students with a survey of the major forms of literature. While the broad focus is on what these works say about the human experience, the course will also address how this experience is affected by social and cultural contexts. Students will increase their appreciation and critical understanding of literature through reading, writing, and discussion. Transfer Curriculum Goal(s): 6

**ENGL 1290 – Directed Study in Composition** (1 credit)
*Prerequisite:* 3 credits of composition that have been transferred to PTCC.  
*Co-Requisite:* none
Students conduct extensive research on a specific topic and present their findings in advanced persuasive essay form. Though some deadlines exist, the students generally work at their own pace and are responsible for managing their time effectively. Transfer Curriculum Goal(s): none

**ENGL 2200 – Advanced Composition** (3 credits)
*Prerequisite:* ENGL 1276 College Composition.  
*Co-Requisite:* none
This course is designed to build upon the foundational writing skills and processes learned in College Composition. Among these are the effective implementation of various writing modes, the use of appropriate rhetorical strategies, and an understanding of audience. Through intensive writing, reading, and research, students will also hone critical thinking skills. While students will be encouraged to shape many of the writing topics to fit their own personal interests and needs, there will always be an emphasis on clear, precise, analytical writing. Transfer Curriculum Goal(s): 1

**ENGL 2276 – Multicultural Literature** (3 credits)
*Prerequisite:* ENGL 1276 College Composition.  
*Co-Requisite:* none
Multicultural Literature is a study of literature written by and reflecting the perspectives of writers from different ethnic backgrounds within the United States.
States. The course includes text written by contemporary writers focusing on the experiences of various ethnic groups through poetry, fiction, creative non-fiction, and drama. Transfer Curriculum Goal(s): 6, 7

ENGL 2280 – Introduction to Creative Writing (3 credits)
Prerequisite: ENGL 1276 College Composition. Co-Requisite: none
This course will enhance the student’s understanding of the various conventions of creative prose and poetry. Students will compose their own creative written works in poetry, short fiction, and non-fiction memoir, and share and refine their writing in a workshop setting. Course emphasis is on composing imaginative, insightful written work designed to have an impact on a public audience. Transfer Curriculum Goal(s): 6

Environmental Science (ENSC)

ENSC 1250 – Introduction to Environmental Science (4 credits)
Prerequisite: READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisite: none
In this course, students look at the relationship of humans to their environment from local, regional, and global perspectives. Students will study natural ecosystems, the impact of human activity on natural resources and environmental quality, environmental ethics, and strategies to maintain a sustainable biosphere. Laboratory component includes experiences in the scientific method, basic ecological and environmental field techniques and assessment, and selected field trips to local agencies, research facilities, and businesses. Transfer Curriculum Goal(s): 3, 10

First Year Experience (FYEX)

FYEX 1010 – First Year Experience: Focus on College (2 credits)
Prerequisite: None. Co-Requisite: none
This course is designed to assist students in exploring and developing the academic skills necessary to succeed in college and as a self-directed, lifelong learner as well as the personal skills to manage their college life and set them up for success in their future careers. Students will be introduced to college and community resources and tools for academic success, including skills in stress management, financial literacy, critical thinking and creative problem solving. They will develop their ability to articulate their long term goals; and they will demonstrate appreciation for diversity and understanding of self as civic and global citizens. Transfer Curriculum Goal(s): 2

Gunsmithing (GSTP)

GSTP 1202 – Rifle Design and Function (3 credits)
Prerequisite: none. Co-Requisite: none
In this course, students investigate the design and function of hinge, lever, and pump action rifles through an in-depth study of various models. They will learn how to disassemble and reassemble firearms, troubleshoot malfunctions, identify parts from schematics, fabricate or order parts as necessary, and maintain proper care of firearms. Transfer Curriculum Goal(s): none

GSTP 1204 – Shotgun Design and Function (3 credits)
Prerequisite: none. Co-Requisite: none
In this course, students investigate the design and function of hinge, lever, and pump action shotguns through an in-depth study of various models. They will learn to disassemble and reassemble firearms, troubleshoot malfunctions, identify parts from schematics, fabricate or order parts as necessary, and maintain proper care of firearms. Transfer Curriculum Goal(s): none

GSTP 1206 – Bolt Action Design and Function (2 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
In this course, students learn to identify the design and function of bolt action firearms. This is an in depth study of commonly used models and includes learning correct firearm terminology. To reinforce their learning, students will disassemble and reassemble firearms, diagnose malfunctions, identify needed parts and fabricate or order required replacement parts and assemblies and complete proper maintenance and care. Transfer Curriculum Goal(s): none

GSTP 1214 – Hinge and Lever Design and Function (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
In this course, students investigate the design and function of hinge and lever guns through an in-depth study of various models. They will disassemble and reassemble firearms, troubleshoot malfunctions, identify parts from schematics, fabricate or order parts as necessary, and maintain proper care of firearms. Transfer Curriculum Goal(s): none
GSTP 1215 – Accessories Installation (2 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1202 Rifle Design and Function, GSTP 1204 Shotgun Design and Function, GSTP 1217 Firearm Business, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I. Co-Requisite: none
This course will cover the selection, repair and installation of firearms accessories. Students will address fitting accessories to customer needs and in addition will emphasize safe practices while meeting customers’ needs. Transfer Curriculum Goal(s): none

GSTP 1217 – Firearm Business (2 credits)
Prerequisite: None. Co-Requisite: none
This course will introduce students to business operations, state and federal firearm regulations. Students will also acquire job seeking, business ownership, and leadership skills. Transfer Curriculum Goal(s): none

GSTP 1225 – Welding, Soldering & Brazing (2 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
In this course, students learn about basic oxy/fuel, stick, (TIG) Tungsten Inert Gas and (MIG) Metal Inert Gas welding equipment, procedures and safety. To reinforce their knowledge, students will practice appropriate welding techniques as applied to various materials and joint types. Instruction will also be provided on soft soldering, silver brazing and brass brazing. Transfer Curriculum Goal(s): none

GSTP 1235 – Metallurgy & Heat Treating (1 credit)
Prerequisite: None. Co-Requisite: none
This course deals with the heat treatment of metals commonly used by the gunsmith. Metals include 0-1, 5-7, 1095, 12-L-14, 8620, 4140. In addition some stainless and non-ferrous metals are reviewed. Transfer Curriculum Goal(s): none

GSTP 1240 – Semiautomatic Design and Theory (3 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1202 Rifle Design and Function, GSTP 1204 Shotgun Design and Function, GSTP 1217 Firearm Business, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I. Co-Requisite: none
In this course, students investigate the design and function of semiautomatic firearms through an in-depth study of commonly used systems. They will disassemble and reassemble semiautomatic firearms, troubleshoot malfunctions, fabricate or order parts and assemblies, and maintain proper care of these firearms. Transfer Curriculum Goal(s): none

GSTP 1250 – Handgun Design and Theory (4 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1202 Rifle Design and Function, GSTP 1204 Shotgun Design and Function, GSTP 1217 Firearm Business, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I. Co-Requisite: none
In this course, the student will learn, discuss, and apply the theories, safety, and repair of modern revolver and auto-loading pistol lockworks in lecture and lab settings. Accessories and features will also be studied. Transfer Curriculum Goal(s): none

GSTP 2210 – Tooling & Fixturing (4 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1225 Welding, Soldering, and Brazing, GSTP 1235 Metallurgy and Heat Treating, GSTP 2230 Barreling and Chambering, GSTP 2269 2 Piece Stockmaking, GSTP 2280 Riflesmithing, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals. Co-Requisite: None
In this course, students learn advanced machine set-ups, the fabrications of specialized tooling and the application of manual machines utilized in the firearms industry. They will fabricate specialized tooling pertinent to the gunsmith. To reinforce a student’s understanding of tool fabrication the design, heat treatment and finishing of tooling will be analyzed and practiced. Transfer Curriculum Goal(s): none

GSTP 2230 – Barreling & Chambering (4 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1215 Accessories Installation, GSTP 1240 Semiautomatic Design and Theory, GSTP 1250 Handgun Design and Theory, MTTP 1208 Measuring Tools, MTTP 1241 Introduction to Computer Aided Design (CAD), MTTP 1245 Machine Fundamentals I. Co-Requisite: none
In this course, the students will learn, discuss and apply the theories of breeching mechanisms, chambering, head spacing and headspace correction in the modern rifle and handgun in lecture and lab settings. Transfer Curriculum Goal(s): none

GSTP 2233 – Firearm Finishes (4 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1225 Welding, Soldering, and Brazing, GSTP 1235 Metallurgy and Heat Treating, GSTP 2230 Barreling and Chambering, GSTP 2269 Two Piece Stockmaking, GSTP 2280 Riflesmithing, MTTP 1208
Measuring Tools, MTTP 1245 Machine Fundamentals I.  
Co-Requisite: none
This course covers various metal preparation techniques involving power and hand processes. In addition students will practice the coloring and preserving of metals through chemical processes and applications and learn spray-on finishes and dipping processes. Transfer Curriculum Goal(s): none

GSTP 2239 – Metalsmithing (2 credits)  
Prerequisite: MTTP 1245 Machining Fundamentals I and Completion of the Firearms Technician Skills Exploration Certificate and Firearms Technician Apprentice Certificate.  
Co-Requisite: none
This course is designed to take advantage of prior skills learned within the Gunsmithing Program. Students will design and blueprint a trigger system and construct a working trigger. Transfer Curriculum Goal(s): none

GSTP 2267 – One Piece Stockmaking (3 credits)  
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1225 Welding, Soldering, and Brazing, GSTP 1235 Metallurgy and Heat Treating, GSTP 2230 Barreling and Chambering, GSTP 2269 Two Piece Stockmaking, GSTP 2280 Riflesmithing, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I.  
Co-Requisite: none
This course will explore the selection and construction of a one-piece gunstock for a bolt action rifle. Starting with the selection of a blank, students will construct a gunstock, fit the gunstock to an individual, and finish the gunstock. Additional topics include selection of woods, proper dimensioning and fit, and carving tools for wood stocks. Transfer Curriculum Goal(s): none

GSTP 2269 – Two Piece Stockmaking (3 credits)  
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1202 Rifle Design and Function, GSTP 1204 Shotgun Design and Function, GSTP 1217 Firearm Business, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I.  
Co-Requisite: none
This course covers the building of a two piece gunstock. Stock materials, design, layout, construction and finishing of two piece stocks are covered. The methods of stock fitting are discussed in depth. Transfer Curriculum Goal(s): none

GSTP 2270 – Shotgunsmithing (3 credits)  
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications and GSTP 1225 Welding, Soldering, and Brazing, GSTP 1235 Metallurgy and Heat Treating, GSTP 2230 Barreling and Chambering, GSTP 2269 Two Piece Stockmaking, GSTP 2280 Riflesmithing, MTTP 1208 Measuring Tools, MTTP 1245 Machine Fundamentals I.  
Co-Requisite: none
In this course, students learn the practices and principles of shotgun; design, choke systems, barrel dimension theory, fitting to individuals and modification, to safely improve performance. To reinforce their understanding, students will apply these practices and principles to various shotguns and then examine and evaluate the results to ensure safe performance improvement. Transfer Curriculum Goal(s): none

Health Care Core Curriculum (HCCC)

HCCC 1215 – Introduction to Health Careers I (2 credits)  
Prerequisite: None.  
Co-Requisite: none
This course will introduce students to healthcare considerations and expectations. Students will explore legal and ethical influences on healthcare, while developing a basic understanding of medical terminology and therapeutic communication techniques in healthcare careers. Transfer Curriculum Goal(s): none

HCCC 1220 – Introduction to Health Careers II (2 credits)  
Prerequisite: HCCC 1215 Introduction to Health Careers I.  
Co-Requisite: None
This course will familiarize students with the expected patient care for various health care careers. Students will explore client and staff diversity, client needs, and safety and standard precautions found in allied health careers. Course content is designed to provide health care terminology, promote discussion, increase professional communication and apply critical thinking to various health care topics. Transfer Curriculum Goal(s): none
HCCC 1225 – Healthcare Careers Skill Set (2 credits)
Prerequisite: HCCC 1215 Introduction to Healthcare Careers I and HCCC 1220 Introduction to Healthcare Careers II. Co-Prequisite: None
This course is an introduction to basic nursing care skills and concepts necessary to prepare an individual to be eligible to take the Nursing Assistant Test-Out (NATO) examination. Upon successful completion of this examination, candidates will qualify for placement on the Nursing Assistant Registered (NA/R) with the State of Minnesota and employment in a health care facility under the direct supervision of a licensed nurse. Transfer Curriculum Goal(s): none

Health Care Pre-Professional (HPPC)

HPPC 1000 – Medical Dosages (1 credit)
Prerequisite: MATH 0250 Math Concepts or placement determined by assessment score. Co-Prequisite: none
This course will focus on introducing students to medical dosages and the terminology associated with medication orders. Students will learn theory and skills related to calculating medication dosages. Transfer Curriculum Goal(s): none

HPPC 1002 – Medical Terminology (1 credit)
Prerequisite: none. Co-Prequisite: none
This course will focus on reinforcing correct word definitions, pronunciation, and spelling as studied in Medical Terminology. Students will be introduced to additional terminology specific to all body systems as well as abbreviations and common drug names. Students will apply medical terminology. Medical terminology as it relates to basic anatomy and functions of the body systems will be further explored. Transfer Curriculum Goal(s): none

HPPC 1004 – Pharmacology (1 credit)
Prerequisite: READ 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score.
Co-Prequisite: none
This course will provide the student with an introduction to basic pharmacology. Students will be presented with the major drug classifications as they relate to body systems. Transfer Curriculum Goal(s): none

HPPC 1010 – Trained Medication Aide for Unlicensed Personnel (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score.
Co-Prequisite: HPPC 1000 Medical Dosages
This course will focus on introducing students to drug therapy, safe administration of prescribed medications, knowledge of drug action related to body systems, side effects of medications. Students will receive an overview of metric, apothecary, and household measurement abbreviations, with implications for use during medication administration. Transfer Curriculum Goal(s): none

History (HIST)

HIST 1200 – United States History Since 1877 (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Prequisite: none
This course is an introduction to the history of the United States from 1877 to the present. Students will learn about the major historical events, figures, movements, and controversies of the period spanning the late 1800s, through the 20th century, and into the present. Special emphasis will be placed on social, economic, and political factors. Transfer Curriculum Goal(s): 5, 7

HIST 1400 – World History to 1500 (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Prequisite: None
This course is a survey of world history from the beginnings of civilization (ca. 4000 BCE) to 1500 CE. Students will explore the history of the cultural, religious, economic, political, military, and social aspects of the ancient civilizations of China, India, the Near East and the Mediterranean, classical Greece and Rome, and Medieval Europe. The course also includes a focus on pre-1500 CE cultures in Africa, the Americas, and Southeast Asia and Oceania. Transfer Curriculum Goal(s): 5, 8

HIST 1500 – World History Since 1500 (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Strategies or placement determined by assessment score. Co-Prequisite: none
This course is a survey of world history from the rise of Europe (ca. 1500) to the present. Students will explore the history of cultural, religious, economic, political, military, and social aspects of various regions of the world, and how these peoples experienced increasing contact, conflict, and subsequent global integration and cultural exchange. Students will also
examine the rise and influence of western power throughout the globe from ca. 1500 to 1920, and the development of the regions of Europe, North and South America, Africa, and Asia to the present day. Transfer Curriculum Goal(s): 5, 8

**HIST 1600 – Minnesota History** (3 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. *Co-Requisite:* none
This course examines Minnesota’s history from the Native American era up to the present. Students will explore topics including: geographical aspects of Minnesota’s environment (topography, vegetation, drainage); Native American groups in Minnesota; European exploration and the fur trade; initial American settlement and use of the land; territoriality and statehood; the Dakota Conflict; the connection between Minnesotans and their natural environment (farming, logging, mining); the Progressive Era and the 1920’s; the Depression and World War II; and the state’s environmental, economic, social, and political history since 1945. Transfer Curriculum Goal(s): 5, 10

**Human Services Eligibility Worker (HSEW)**

**HSEW 1201 – Introduction to the HSEW Role** (4 credits)
*Prerequisite:* Placement determined by Reading assessment score
*Co-Requisite:* none
In this course, students will explore the role of the eligibility worker. Students apply critical thinking concepts to strengthen thinking, learning, and research strategies needed in the workplace. Designed to enhance career success and help students understand the role of the eligibility worker in the agency, this course presents diverse perspectives to challenge students to examine their assumptions and values by analyzing, synthesizing, and evaluating contemporary social issues and the diverse populations served by the agency. Transfer Curriculum Goal(s): none

**HSEW 1205 – Worker Skill** (4 credits)
*Prerequisite:* placement determined by reading and writing assessment score. *Co-Requisite:* none
In this course students will become adept at interviewing and gathering necessary information to determine eligibility for programs. Emphasis is on acquiring the communication skills needed to explain eligibility requirements and program details to clients, respecting an applicant’s right for privacy and confidentiality, and understanding the need for organization and accuracy. Transfer Curriculum Goal(s): none

**HSEW 1230 – Public Assistance Policy 1** (4 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score none
*Co-Requisite:* HSEW 1235 Eligibility Systems 1
This course will cover the policy for the administration of welfare programs in the state of Minnesota. Students will discern the different public assistance programs as administered by the Department of Human Services and local human service agencies. Transfer Curriculum Goal(s): none

**HSEW 1235 – Eligibility Systems 1** (4 credits)
*Prerequisite:* READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score
*Co-Requisite:* HSEW 1230 Public Assistance Policy 1
In this course, students will master appropriate navigational techniques, along with a basic understanding of each of the systems’ functions and menus through system case entry and resource identification. Using simulated case entry on Department of Human Services (DHS) eligibility computer systems, students will create a caseload and apply various intake and case maintenance procedures according to policy. Transfer Curriculum Goal(s): none

**HSEW 2230 – Public Assistance Policy 2** (4 credits)
*Prerequisite:* HSEW 1230 Public Assistance Policy 1
*Co-Requisite:* HSEW 2235 Eligibility System 2
In this course students will interpret and apply policy, identify required verifications and Department of Human Services’ forms, and conduct simulated client interviews. With case scenarios, students will assess eligibility and estimate the benefit based on policy. Emphasis will be placed on evaluating client circumstances and predicting eligibility. They will summarize ongoing case maintenance policy, such as reporting, recertification, change in assistance unit members, ineligibility, and adjust the benefit as policy dictates. Transfer Curriculum Goal(s): none

**HSEW 2235 – Eligibility System 2** (4 credits)
*Prerequisite:* HSEW 1235 Eligibility Systems 1
*Co-Requisite:* HSEW 2230 Public Assistance 2
In this course students will create accurate results utilizing Department of Human Services (DHS) approved procedures, such as processing recertification, adding/removing household members, closing cases, and referring clients to appropriate community resources. The student will utilize the capacities of the DHS computer systems to issue benefits according to policy and procedures. Client-appropriate written and oral communication
explaining complex welfare policy and procedures will be practiced.
Transfer Curriculum Goal(s): none

HSEW 2290 – Internship (6 credits)
Prerequisite: HSEW Courses and Instructor Permission. Co-Requisite: none
In this course the student will experience working in a Human Services
agency for the purpose of gaining practical hands-on experience in
determining eligibility and ongoing case maintenance. This class is organized
by the student and their advisor during the final phase of the student
training for entry level job as an eligibility worker. Students will demonstrate
cultural and gender sensitivity and utilize ethical practices. The focus of
this course will be to utilize skills in reading, comprehending and applying
public assistance policy to a variety of situations. Emphasis will be placed on
reading, listening, writing, speaking, spelling, and understanding the statutes
and policies governing the eligibility and receipt of public assistance.
Students will also be required to utilize problem-solving techniques and
critical thinking skills. After completing this course, students will have
experience in determining initial and ongoing eligibility. Transfer Curriculum
Goal(s): none

American Sign Language (LASL)

LASL 1205 – American Sign Language I (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations
or placement determined by assessment score. Co-Requisite: none
This course introduces the fundamentals of American Sign Language
(ASL) used by the Deaf Community, including basic vocabulary, syntax,
fingerspelling, and grammatical non-manual signals. Questions, commands,
and simple sentences are covered, leading to basic conversational skills.
Students will gain cultural knowledge and increased understanding of the
Deaf Community. Transfer Curriculum Goal(s): 8

LASL 1265 – American Sign Language II (3 credits)
Prerequisite: LASL 1205 American Sign Language I (with “C” or better)
Co-Requisite: none
This course continues to develop the basics of the American Sign Language
(ASL) and the building of both expressive and receptive vocabulary.
Students will develop the communicative competencies in the language
focusing on skills including temporal sequencing, spatial agreement and
object identification through description. Basic storytelling skills will be
introduced. Study of Deaf Culture is continued. Transfer Curriculum
Goal(s): 8

LASL 2210 – Numbers and Finger Spelling (3 credits)
Prerequisite: LASL 1265 American Sign Language II (with “C” or better)
Co-Requisite: none
This course introduces students to the fundamentals of lexicalized
fingerspelling and use of numbers in signed form. Students will learn
loan signs, letter blocks, and methods for improving both expressive and
receptive skills of both fingerspelling and numbers. Transfer Curriculum Goal(s): none

LASL 2270 – American Sign Language III (3 credits)
Prerequisite: LASL 1265 American Sign Language II (with “C” or better)
Co-Requisite: none
This course expands the communicative range developed in LASL 1265
American Sign Language II to talk about people and places in a contextually-
reduced framework. Students will learn to describe places, objects, and
events. In addition, students will develop basic narrative skills to tell about
past events. Through in-class discussions/demonstrations, media and course
readings, students will be exposed to elements of the Deaf community and
culture. Transfer Curriculum Goal(s): 8

LASL 2275 – American Sign Language IV (3 credits)
Prerequisite: LASL 2270 American Sign Language III (with “C” or better)
Co-Requisite: none
This course is a continuation of LASL 2270 American Sign Language III and
increases the emphasis on abstract and challenging conversational and
narrative range. Students will learn basic classifier usage; receptive and
expressive coursework; broader sign vocabulary and grammatical structure;
various aspects of Deaf culture and cultural behavior rules. Transfer
Curriculum Goal(s): 8

Math (MATH)

MATH 0250 – Math Concepts (3 credits)
Prerequisite: Placement determined by assessment score. Co-Requisite: none
This course is designed to establish foundations of college-level
mathematical concepts and allow students to improve their mathematical
skills while learning new material. Students will review topics including
geometry, measurement, probability, data analysis, and an introduction to
sequences. Transfer Curriculum Goal(s): none
MATH 0365 – Algebra Concepts (3 credits)
Prerequisite: MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisite: none
This course is designed to lay the foundation for success in further mathematics and science courses while studying the key concepts in algebra. Topics include a study of different number systems, practice with first degree equations and inequalities, solving systems of linear equations in two variables, manipulating polynomials, and drawing conclusions from graphs of functions. Transfer Curriculum Goal(s): none

MATH 0450 – Intermediate Algebra (3 credits)
Prerequisite: MATH 0365 Algebra Concepts or placement determined by assessment score. Co-Requisite: none
This course is a continuation of MATH 0350 Elementary Algebra. Course content includes polynomial factoring; rational expression, operation and application; exponents and radicals; introduction to functions and algebra of functions; compound and absolute value inequalities. Transfer Curriculum Goal(s): none

MATH 1251 – Technical Math (3 credits)
Prerequisite: MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisite: none
This course is primarily for technical and industrial majors. The topics in this course include math foundation review with focus on proportionality. Students will solve linear equations with practical work application, read and compute measurement in US and Metric system, basic geometry and right angle trigonometry. Transfer Curriculum Goal(s): none

MATH 1256 – Mathematical Thinking (3 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0450 Intermediate Algebra or placement determined by assessment scores OR READ 0220 Reading Strategies and MATH 0365 Algebra Concepts or placement determined by assessment scores. Co-Requisite: none
This course emphasizes inductive and deductive reasoning, mathematical logic, number systems, elementary statistics and geometry. These topics will also be presented along with their historic background and modern practical life applications. The course is an alternative for students whose program does not require a college algebra course. Transfer Curriculum Goal(s): 4

MATH 1258 – Applied Geometry (3 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0450 Intermediate Algebra or placement determined by assessment scores OR READ 0220
Reading Strategies and MATH 0365 Algebra Concepts or placement determined by assessment scores. Co-Requisite: none
This course demonstrates how properties of geometric figures may be used to solve application problems for both plane and solid geometry. Students will be exposed to the axiomatic method of Euclidean geometry. Methods from coordinate and transformational geometry will be introduced as well as some right triangle trigonometry. Students will not be required to write proofs of theorems. Transfer Curriculum Goal(s): 4

MATH 1260 – College Algebra (3 credits)
Prerequisite: READ 0220 Reading Strategies, MATH 0450 Intermediate Algebra or placement determined by assessment score. Co-Requisite: none
This course presents the student with solution methods and applications of linear, quadratic, rational and radical equations, basic complex numbers, functional graphs and transformations, polynomial and rational functions, exponential and logarithmic functions, and systems of equations and inequalities. Transfer Curriculum Goal(s): 4

MATH 1262 – Calculus I (5 credits)
Prerequisite: MATH 1260 College Algebra and MATH 2260 Trigonometry or MATH 2270 Pre-Calculus. Co-Requisite: none
This is the first course in the two-semester sequence of Single Variable Calculus. Topics include functions of a single variable, limits and continuity, differentiation, anti- differentiation, and integration of algebraic and transcendental functions with associated applications in each area. Instruction will be provided in the use of a scientific calculator. Transfer Curriculum Goal(s): 4

MATH 1265 – Elementary Statistics (3 credits)
Prerequisite: MATH 0450 Intermediate Algebra or placement determined by assessment score or MATH 0365 Algebra Concepts or placement determined by assessment score. Co-Requisite: none
Elementary Statistics provides students with a practical understanding of statistics. Students will be introduced to basic mathematics and probability upon which statistics relies. The course centers on descriptive statistics, elementary probability, and inferential statistics. Topics include graphing and data representation; measures of central tendency and variability; normal distributions; elementary hypothesis testing; correlation and linear regression; and analysis of variance. Transfer Curriculum Goal(s): 4
MATH 2255 – Trigonometry (2 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0450 Intermediate Algebra or placement determined by assessment score. Co-Requisite: none
This course introduces the concepts of trigonometry functions through both right-angle and unit circle approaches, and their inverse functions. Course content presented will include properties, graphs and identities, law of sine and cosine, and equation solution methods. In addition, other topics in the course include complex number, polar coordinate system, conic sections and basics of vector analysis. Transfer Curriculum Goal(s): 4

MATH 2260 – Trigonometry (3 credits)
Prerequisite: READ 0220 Reading Strategies and MATH 0450 Intermediate Algebra or placement determined by assessment score. Co-Requisite: none
This course introduces the concepts of trigonometry functions through both right-angle and unit circle approaches, and their inverse functions. Course content presented will include properties, graphs and identities, law of sine and cosine, and equation solution methods. In addition, other topics in the course include complex number, polar coordinate system, conic sections and basics of vector analysis. Transfer Curriculum Goal(s): 4

MATH 2262 – Calculus II (5 credits)
Prerequisite: MATH 1262 Calculus I. Co-Requisite: none
A continuation of Calculus I, this course includes further calculus of transcendental functions, techniques of integration, polar coordinates, conic sections, and infinite series. Instruction will be provided in the use of a scientific calculator. Transfer Curriculum Goal(s): 4

MATH 2270 – Pre-Calculus (5 credits)
Prerequisite: READ 0220 Reading Strategies, MATH 0450 Intermediate Algebra or placement determined by assessment score. Co-Requisite: none
This course will provide the necessary foundation for a standard calculus course. The algebra topics presented are solution methods and applications of linear, quadratic, rational and radical equations, complex numbers, functional graphs and transformations, polynomial and rational functions, exponential and logarithmic functions, and systems of equations and inequalities. The trigonometry topics presented will include properties, graphs and identities of the trigonometric functions, laws of sine and cosine, and equation solution methods. Other related topics in the course include polar coordinate system, conic sections and basics of vector analysis. Sequences, series, and probability may be covered. Transfer Curriculum Goal(s): 4

Medical Assistant (MEDA)

MEDA 1090 – Directed Study in Medical Assisting (1 credit)
Prerequisites: HEOP 1241 Nursing Assistant & HEOP 1242 Nursing Assistant Clinical and/or proof of completion of CNA course. Co-requisites: none
This course will expand students’ knowledge in healthcare. Students will explore legal and ethical issues/influences on healthcare while developing therapeutic communication techniques in healthcare careers. Course content is designed to provide a basic understanding of health care delivery expectations and apply critical thinking to various healthcare topics. Transfer Curriculum Goal(s): none

MEDA 1101 – Administrative Procedures 1 (4 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment. Co-Requisite: MEDA 1201 Clinical Procedures I, MEDA 1301 Laboratory Procedures I
This course introduces the student to a wide variety of medical office duties that are commonly performed by the medical assistant. Students will discover their roles and responsibilities as a member of the healthcare team. This course will provide a foundation of law and ethics. It will cover point of law as well as ethical dilemmas faced in the medical office. Documentation and professionalism will be covered. Students will understand a variety of ways in which patients may communicate in the medical office. Telecommunication, computer skills, use of the internet and use of office equipment will be covered. Documentation, filing, paper medical records and the electronic medical record will be taught. Transfer Curriculum Goal(s): none

MEDA 1201 – Clinical Procedures 1 (5 credits)
Prerequisite: ENGL 1276 College Composition, BIOL 1240 Health and Disease in the Human Body and HPPC 1002 Medical Terminology. Co-Requisite: MEDA 1101 Administrative Procedures I, MEDA 1301 Laboratory Procedures I
This course is designed to teach the fundamentals of medical assisting in a variety of ambulatory care settings. Students will learn the fundamentals of the Medical Assistant role which include: obtain and record a patient history, obtain vital signs, appropriate and accurate documentation, prepare for and assist with patient examinations, assist with procedures and minor office surgeries and perform sterilization techniques. During this course, the student will follow medical and surgical asepsis and microbial control. Basic information about common disease conditions affecting body systems will be covered in this course. Causes, signs, symptoms of disease will be
presented as well as diagnostic procedures, treatment procedures and preventative measures. Transfer Curriculum Goal(s): none

**MEDA 1301 – Laboratory Procedures I** (4 credits)
*Prerequisite:* HCCC 1220 Introduction to Health Careers II, BIOL 1240 Health and Disease in the Human Body, and ENGL 1276 College Composition, and HPPC 1002 Medical Terminology
*Co-Requisite:* MEDA 1101 Administrative Procedures I, MEDA 1201 Clinical Procedures I

This course is designed to introduce the student to the clinical laboratory. Students will learn laboratory safety, use and maintenance of lab equipment, use and maintenance of microscopes, quality assurance and controls. The student will perform Clinical Laboratory Improvement Amendments (CLIA)-waived tests according to CLIA guidelines and within the Medical Assistant Scope of Practice. Collection of simulated specimens such as urine, occult blood, throat, wound and wet preps will be performed in the lab setting. Transfer Curriculum Goal(s): none

**MEDA 1401 – Electrocardiography** (2 credits)
*Prerequisite:* BIOL 1240 Health and Disease in the Human Body and/or currently enrolled in a Practical Nursing Program, Registered Nursing Program or be a LPN or RN. Proof of program acceptance or license will be required at the beginning of the course. *Co-Requisite:* none

This course teaches electrocardiography, which includes understanding cardiac anatomy and physiology, the components of the cardiac cycle, and basic heart rhythms. Students will learn how to perform a 12-lead ECG while working in a simulated laboratory setting. The topics of exercise electrocardiography and ambulatory monitoring will also be covered. Transfer Curriculum Goal(s): none

**MEDA 2101 – Administrative Procedures II** (3 credits)
*Prerequisite:* MEDA 1101 Administrative Procedures I
*Co-Requisite:* MEDA 2211 Clinical Procedures II, MEDA 2301 Laboratory Procedures II

This course strengthens and builds on the knowledge and skills covered in Administrative Procedures I. Students will cover aspects of facilities management, banking and accounting procedures. This course also covers the patient medical record, filing and professional written communication and documentation. Students will be exposed to professional career seeking skills. The focus will remain on the Electronic Medical Record and utilization of a total practice management system. Transfer Curriculum Goal(s): none

**MEDA 2211 – Clinical Procedures II** (6 credits)
*Prerequisite:* MEDA 1201 Clinical Procedures I
*Co-Requisite:* MEDA 2301 Laboratory Procedures II, MEDA 2101 Administrative Procedures II

This course builds on the skills attained in Clinical Procedures I. Student will utilize critical thinking skills related to medication administration as a focus in this course. Instruction includes safe and accurate drug administration utilizing parenteral and non-parenteral routes including other special procedures. The course reviews stress management, pediatric care, geriatric care, rehabilitation therapy, specialty examinations and procedures, and emergency procedures and preparedness. Basic information regarding common disease conditions, causes, signs, symptoms and preventative measures will be presented as well as diagnostic and treatment procedures affecting the body systems. Along with general drug actions, common adverse reactions, contraindications, precautions, and interactions will be covered. Emphasis is placed on ways to promote an optimal response to therapy, and how to monitor and manage adverse reactions. Students will understand patient rights, patient education and patient safety. Transfer Curriculum Goal(s): none

**MEDA 2301 – Laboratory Procedures II** (4 credits)
*Prerequisite:* MEDA 1301 Laboratory Procedures I
*Co-Requisite:* MEDA 2101 Administrative Procedures II, MEDA 2211 Clinical Procedures II

This course will build on the skills learned in Laboratory Procedures I. Students will study immunology, hematology, clinical chemistry and microbiology. The students will collect samples and perform Clinical Laboratory Improvement Amendment (CLIA)-waived testing according to CLIA guidelines. Through this course students will become familiar with all aspects and methods of safe specimen collection, blood and non-blood specimens, quality control and assurance, legal issues, universal precautions and infection control. Patient centered care is integrated throughout this course. Transfer Curriculum Goal(s): none

**MEDA 2400 – Practicum** (7 credits)
*Prerequisite:* MEDA 2101 Administrative Procedures II
*Co-Requisite:* MEDA 2500 Exam Review

The focus of this practicum is to apply entry level Medical Assistant skills in the ambulatory care setting to patients across the lifespan. Students will observe and/or participate in clinical and laboratory procedures and treatments. Ethical and legal obligations of the Medical Assistant are integrated throughout the experience. The emphasis is on delivering safe,
component care. This experience facilitates performance within the Scope of Practice of the Medical Assistant student. This practicum is an unpaid 224 hour experience in an ambulatory care setting. Transfer Curriculum Goal(s): none

MEDA 2500 – Certification Exam Review (1 credit)
Prerequisite: MEDA 2101 Administrative Procedures II
Co-Requisite: MEDA 2400 Practicum
This course will be a review to prepare the student to sit for the national certification examination. Students will review the theory learning in the classroom, including administrative, clinical, and laboratory content areas. The student will also be expected to study outside of the class to prepare for the exam. Transfer Curriculum Goal(s): none

Machine Technology (MTTP)

MTTP 1201 – Basic Machine Shop (3 credits)
Prerequisite: none. Co-Requisite: none
This course presents the basic principles of milling machine and engine lathe operation. Students will learn about machine theory, safety and component identification, set up, tool selection, and use of attachments. Precision layout and basic inspection are also introduced. Students will manufacture machine tool projects to blueprint specifications, using the vertical mill and engine lathe. Transfer Curriculum Goal(s): none

MTTP 1208 – Measuring Tools (1 credit)
Prerequisite: READ 0230 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course introduces basic and precision measuring practices. Students will learn the care and use of measuring instruments, such as micrometers, calipers, scales and indicators. Transfer Curriculum Goal(s): none

MTTP 1220 – Blue Print Reading I (2 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course presents basic blueprint reading principles. Topics include the alphabet of lines, arrangement of views, orthographic projection, scaling, dimensioning, tolerancing, and symbols. Students will be reading and interpreting working drawings. Transfer Curriculum Goal(s): none

MTTP 1241 – Introduction to Computer Aided Design (3 credits)
Prerequisite: ENGL 1276 College Composition or ENGL 1277 Technical Communications (for Gunsmithing majors) OR COCP 1201 Computer Concepts and Applications and MTTP 1220 Blue Print Reading I (for Manufacturing majors). Co-Requisite: None
This course covers design, analysis and implementation of Two-Dimensional and Three-Dimensional vector data including principles of coordinates, construction, modification, file types, attributes, representation, output, and productivity issues. Transfer Curriculum Goal(s): none

MTTP 1245 – Machining Fundamentals I (4 credits)
Prerequisite: Math 0250 Math Concepts and READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course presents the basic principles of milling machine and engine lathe operation. Topics include machine theory, safety and component identification, set up, tool selection, and use of attachments. Precision layout and basic inspection are also introduced. Students will manufacture machine tool projects to blueprint specifications using the vertical mill, engine lathe and grinders. Transfer Curriculum Goal(s): none

MTTP 1256 – Applied Machining Theory (3 credits)
Prerequisite: Math 0250 Math Concepts and READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course presents machining theory used in manufacturing. Topics include determining cutting speed and feed, cutting time, measurement over wires, chamfer depth, bolt circle dimensions and the coordinate system. Transfer Curriculum Goal(s): none

MTTP 1261 – Introduction to Computer Aided Manufacturing (2 credits)
Prerequisite MTTP 1241 Introduction to Computer Aided Design (CAD) Co-Requisite: none
This course is an introduction of Computer Aided Manufacturing (CAM). Students will primarily use a Computer Aided Design (CAD) package to draw or create blueprints consisting of two-dimensional drawings of machine tool related parts. Secondly, students will begin to use Computer Aided Manufacturing to produce G & M codes for Computerized Numerical Control (CNC) machines. Transfer Curriculum Goal(s): none

MTTP 1262 – Blueprint Reading II (2 credits)
Prerequisite: MTTP 1220 Blue Print Reading I. Co-Requisite: none
This course is a continuation of MTTP 1220 Blueprint Reading I and will cover basic and advanced blueprint reading principles. Topics included are
interpreting thread specifications, section views, right triangle applications, dimensioning, tolerancing, and symbols. Geometric Dimensioning and Tolerancing concepts will also be introduced and applied to working drawings. Transfer Curriculum Goal(s): none

MTTP 1265 – Machining Fundamentals II (4 credits)
Prerequisite: MTTP 1208 Measuring Tools; MTTP 1245 Machining Fundamentals I. Co-Requisite: none
This course is a continuation of MTTP 1245 Machining Fundamentals I and covers the basic principles of milling machine and engine lathe operation. Topics include machine safety, set-up, tool selection, use of attachments, documentation of manufacturing processes and inspection procedures. Students will manufacture machine tool projects to blueprint specifications using appropriate manufacturing processes. Transfer Curriculum Goal(s): none

MTTP 1277 – Machining Process (2 credits)
Prerequisite: MTTP 1265 Machining Fundamentals II. Co-Requisite: none
This course requires students to utilize the skills and knowledge from the Precision Machining Certificate courses. Students will work in teams to manufacture a multiple component assembly project to print specifications. Transfer Curriculum Goal(s): none

MTTP 1279 – CNC Set-up & Operate (5 credits)
Prerequisite: MTTP 1220 Blueprint Reading I; MTTP 1245 Machining Fundamentals I and MTTP 1256 Applied Machine Theory
Co-Requisite: MTTP 1265 Machining Fundamentals II
This course presents students with an introduction to Computer Numeric Controlled machining (CNC), providing the student with information to safely operate and set up machining and turning centers. Common formats and codes for manual CNC programming will also be covered. Transfer Curriculum Goal(s): none

MTTP 2255 – CNC Programming (5 credits)
Prerequisite: MTTP 1279 CNC Set-up & Operate. Co-Requisite: none
This course will present students with the Computer Numeric Controlled machining CNC word address programming language for a variety of machining and turning centers. Programs will be written both manually, using computer aided manufacturing (CAM) software and simulated prior to running on a machine. Process and inspection sheets will be used to manufacture projects and inspect for dimensional accuracy using appropriate precision tools. Transfer Curriculum Goal(s): none

MTTP 2260 – Cutting Tool Technology (1 credit)
Prerequisite: MTTP 1265 Machining Fundamentals and MTTP 1208 Measuring Tools. Co-Requisite: none
This course emphasizes the identification and use of standard and special cutting tools. Cutting tools will be examined as to their application in conventional machining. Cutting inserts such as carbides and cermets will be examined as to their use in CNC machining. Transfer Curriculum Goal(s): none

MTTP 2263 – Quality in Manufacturing (2 credits)
Prerequisite: READ 0220 Reading Strategies, MATH 0250 Math Concepts or placement determined by assessment score. Co-Requisite: none
This course presents quality systems and concepts currently being utilized in the manufacturing industry. Topics include aspects of lean manufacturing with emphasis on the use of quality for continuous process improvement. Transfer Curriculum Goal(s): none

MTTP 2268 – Machining Internship (1-3 OJT credits.) (Variable On-the-Job Training)
Prerequisite: Instructor Permission. Co-Requisite: none
This course provides students with work experience in precision manufacturing technology careers. An internship plan will be developed for each student. Actual hours of on-the-job work experience will be outlined in the internship plan. Transfer Curriculum Goal(s):

MTTP 2290 – Manufacturing Capstone Project (3 credits)
Prerequisite: MTTP 2255 CNC Programming. Co-Requisite: none
This course presents students with a real-world manufacturing project, utilizing the knowledge and experience gained in previous manufacturing/machining courses. This involves designing a complete project including fixtures and a timeline for completion. Parts will be manufactured, inspected for tolerances, and assembled into a final product. Transfer Curriculum Goal(s): none

Music (MUSC)

MUSC 1200 – Music Appreciation (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course introduces students to musical elements, forms and stylistic periods from the Middle Ages through the popular music of today. In addition to concentrating on Western Art Music and its representative
The course introduces concepts of basic human needs, health/illness continuum and basic nursing skills. The theory and role of the nursing assistant in long-term care settings and the home setting are discussed. Upon successful completion of this course, the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants and Home Health Aide. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry. Transfer Curriculum Goal(s): none.

HEOP 1241 – Nurse Assistant (2 credits)
Prerequisite: None. Co-Requisite: HEOP 1242 Nurse Assistant Clinical
This course introduces concepts of basic human needs, health/illness continuum and basic nursing skills. The theory and role of the nursing assistant in long-term care settings and the home setting are discussed. Upon successful completion of this course, the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry. Transfer Curriculum Goal(s): none.

HEOP 1242 – Nurse Assistant Clinical (1 credit)
Prerequisite: None. Co-Requisite: HEOP 1241 Nurse Assistant
This course introduces the hands-on concepts of basic human needs, health/illness continuum and basic nursing skills which were introduced in the Nursing Assistant course. This course includes 24 hours of clinical care of selected adult patients in a long-term care setting. Upon successful completion of this course and Nursing Assistant course, the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry. Transfer Curriculum Goal(s): none.

HEOP 1245 – Home Health Aide (1 credit)
Prerequisite: Provide proof of successfully completing a state-approved nursing assistant training program, have taken and passed the NNAAP Examination (both Written (or Oral) Examination and the Skills Evaluation), and are on the Minnesota Nursing Assistant Registry. Co-Requisite: None
This course introduces students to work as home health aides or homemakers for agencies providing home care. Students will explore the philosophy of home care, the importance of family dynamics, working with children, working with and understanding persons with special needs, medication issues, providing a clean and safe environment, and managing time, energy, and resources. Upon successful completion of a Nursing Assistant course/clinical the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants and Home Health Aide. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry. Transfer Curriculum Goal(s): none.

HEOP 1262 – Nursing Assistant (5 credits)
Prerequisite: None. Co-Requisite: HEOP 1266 Nursing Assistant Clinical
This course introduces concepts of basic human needs, health/illness continuum and basic nursing skills. The theory and role of the nursing assistant in long-term care settings and the home setting are discussed. Upon successful completion of this course, the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry and may apply for transfer to the Wisconsin Nursing Assistant Registry. Transfer Curriculum Goal(s): none.

HEOP 1266 – Nursing Assistant Clinical-add Assistant (1 credit)
Prerequisite: None. Co-Requisite: HEOP 1262 Nursing Assistant
This course introduces the hands-on concepts of basic human needs, health/illness continuum and basic nursing skills which were introduced in the Nursing Assistant course. This course includes 32 hours of clinical care of selected adult patients in a long-term care setting. Upon successful
completion of this course and Nursing Assistant course the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry and may apply for transfer to the Wisconsin Nursing Assistant Registry respectively. Transfer Curriculum Goal(s): none

HEOP 1510 – Nursing Assistant Comprehensive (4 credits)
Prerequisite: None. Co-Requisite: None
This course will introduce concepts of basic human needs, health/illness continuum and basic nursing skills along with providing the clinical experience working with patients. Theory, lab and clinical aspects of the nursing assistant including skills demonstrations, practice in a supervised laboratory setting, and orientation to clinical setting will be discussed. Students will also be provided knowledge to administer First Aid for medical, injury, environmental emergencies, infection control principles, Right to Know and body mechanics for the workplace.

This course includes 24 hours of clinical care of selected adult patients in a long term care setting. Upon successful completion of this course and Nursing Assistant Clinical the candidate is eligible to take the Minnesota Competency Evaluation for Nursing Assistants. Individuals successfully completing this examination are placed on the Minnesota Nursing Assistant Registry. American Heart Association Basic Life Support for Health Care Provider certification is also provided.

Nursing (NURS)

NURS 2922 – Professional Nursing Practicum I (4 credits)
Prerequisite: Admission to the Associate Degree Nursing Mobility Program Co-Requisite: NURS 2926 Professional Nursing Theory I
This course provides theoretical application and skill development in the areas of professional nursing, care management, care plan process, health record management, community needs, and resources as care is delivered to clients in various health care facilities. Students will be provided the opportunity to demonstrate newly acquired cognitive and technical skills and integrate previously learned skills and knowledge in a clinical setting. Transfer Curriculum Goal(s): none

NURS 2923 – Role Transition: LPN to Professional Nurse (2 credits)
Prerequisite: Admission to the Associate Degree Nursing Mobility Program Co-Requisite: NURS 2927 Professional Nursing I, NURS 2922 Professional Nursing Practicum I
This course is designed to transition the Licensed Practical nurse into the role of the professional nurse. Students will focus on new competencies necessary for the professional nurse including critical thinking, quality, and safety with emphasis on evidence-based practices. Topics include scope of practice, teamwork, communication, research skills, teaching-learning principles, development of the teaching role and others. Transfer Curriculum Goal(s): none

NURS 2927 – Professional Nursing I (8 credits)
Prerequisite: Admission into the Associate Degree Nursing Mobility Program Co-Requisite: NURS 2923 Role Transition: LPN to Professional Nurse, NURS 2922 Professional Nursing Practicum I
This course focuses on the expanded role of the professional nurse through nursing theory, nursing ethics, and lab. Demonstrating cultural competency, students will integrate Quality and Safety Education for Nurses (QSEN) into nursing care, health promotion across the lifespan, and health care interventions. Additional areas of focus include nursing theory, pathophysiology, assessing learning needs, teaching and evaluation, and pharmacology in selected concepts and systems. The lab portion of this course focuses on areas including critical thinking, quality, safety, medication/IV calculations, assessments, and advanced nursing skills with emphasis on evidence-based practices. Transfer Curriculum Goal(s): none

NURS 2931 – Professional Nursing Leadership and Management (2 credits)
Prerequisite: NURS 2923 Role Transition: LPN to Professional Nurse, NURS 2927 Professional Nursing I, and NURS 2922 Professional Nursing Practicum I Co-Requisite: none
This course focuses on the leadership responsibilities of a professional nurse. Students will be able to identify and develop professional leadership skills which include management, collaboration, ethical decision making, delegation, supervision, advocacy, teamwork, quality and safety, assessing learning needs, teaching and evaluation when working with nursing personnel, patients, family members, and the health care team members. Transfer Curriculum Goal(s): none
NURS 2934 – Professional Nursing II (8 credits)
Prerequisite: NURS 2922 Professional Nursing Practicum I, NURS 2923 Role Transition: LPN to Professional Nurse, and NURS 2927 Professional Nursing I
Co-Requisite: NURS 2936 Professional Nursing Practicum II
This course continues to expand the role of the professional nurse. Focus will be on the application of evidence based nursing process in the care of persons throughout the lifespan who are experiencing complex, chronic, or multi-system conditions. Students will apply advanced nursing skills while integrating quality, safety, teamwork, and communication skills into various health care settings. Topics will include integration of Quality and Safety Education for Nurses (QSEN), recognition of potential clients, prioritizing more advanced nursing interventions, and health teaching in selected concepts and systems. Transfer Curriculum Goal(s): none

NURS 2936 – Professional Nursing Practicum II (4 credits)
Prerequisite: NURS 2923 Role Transition: LPN to Professional Nurse, NURS 2927 Professional Nursing I, and NURS 2922 Professional Nursing Practicum I.
Co-Requisite: NURS 2934
This capstone course provides students with the opportunity to practice theory and skills in a clinical setting. The course will address advanced professional nursing skills, care management, prioritization and care for multiple clients, health promotion across the lifespan, integration of management systems into health care, evaluation of patient (or client) safety and quality of care, and community health referral processes. Students will identify and model advanced cognitive and technical professional nursing skills in a variety of health care settings. Transfer Curriculum Goal(s): none

Physical Education (PHED)

PHED 1100 – Clay Target Team (1 credit)
Prerequisites: Current Doctor’s Physical Examination and Health Insurance
Co-Requisites: none
In this course, student athletes learn about and compete in clay target shooting sports. Students will also learn about clay target shooting disciplines and the differences in them, including trap, skeet, and sporting clays. Transfer Curriculum Goal(s): none

PHED 1201 – Introduction to Yoga and Meditation (1 credit)
Prerequisites: None. Co-Requisites: None
This course introduces students to the basic principles of yoga, including positioning, breathing, meditation, and the connection between a healthy mind and body. Students will explore techniques to improve relaxation and stress management will be emphasized. Students must be able to participate in yoga exercises, relaxation and meditation techniques. Yoga experience is not required. Transfer Curriculum Goal(s): none

Philosophy (PHIL)

PHIL 1200 – Introduction to Logic and Critical Reasoning (3 credits)
Prerequisites: none. Co-Requisites: none
This course is an introduction to a central part of Philosophy: the philosophical study of reasoning. Studies include the function and uses of language, the distinction between deductive and inductive arguments, methods for symbolizing and evaluating the validity of deductive arguments, and the detection of informal fallacies. Students will gain practical skills used in the evaluation of inductive and deductive arguments, which are applicable at all levels of reasoning. Transfer Curriculum Goals(s): 2, 4

PHIL 1210 – Foundations of Philosophy (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score.
Co-Requisite: none
This is a survey course in classical and modern philosophy. The student will study the ways in which humans have reflected on questions of reality, religion, and knowledge. The course offers a topical approach to philosophy while providing students the tools to make reasonable, rational, and logical assessments of issues. Transfer Curriculum Goal(s): 6

PHIL 1220 – Human Ethics (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
This course presents students with an examination of the basic philosophical questions about moral values through the analysis of various controversial issues. Students will increase their understanding of how ethical decisions are created and evaluated through reading, writing, and discussion. Transfer Curriculum Goal(s): 6

PHIL 1230 – Philosophy of Religion (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none
This course will focus on the relationship of reason and religious belief. Topics and issues that will be explored include: religious experience, theistic arguments for the existence of God, the problem of evil, religious language, religious pluralism, the relationship of religion to science, the relationship between religion and morality, feminist concerns within religion, as well
as a comparison of Western theism and Eastern religions. No previous knowledge/experience of philosophy is required. Transfer Curriculum Goal(s): 6, 8

PHIL 1271 – Critical Thinking in Modern Society (3 credits)

Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none

The course centers on learning to think critically in a field or discipline. Emphasis is on developing an awareness of thinking in relation to others, and the assimilation of reasoning skills into life. Transfer Curriculum Goal(s): 2, 9

Physics (PHYS)

PHYS 1250 – College Physics I (4 credits)

Prerequisite: MATH 1260 College Algebra. Co-Requisite: none

This course is an introduction to Newtonian statics and dynamics. Selected topics include vector forces, moments, constant acceleration, trajectories, friction, the concepts of simple machines, rotary motion, work, power, energy and torque. This course contains a lab component. Transfer Curriculum Goal(s): 2, 3

PHYS 2250 – College Physics II (4 credits)

Prerequisite: PHYS 1250 College Physics I. Co-Requisite: none

This course is a continuation of College Physics 1, and includes the following topics: fluids, thermodynamics, selected topics in electricity and magnetism, AC and DC circuit theory, waves and light, modern physics, atomic and nuclear physics. This course contains a lab component. Transfer Curriculum Goal(s): 2, 3

Political Science (POLS)

POLS 1205 – American Government and Politics (3 credits)

Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none

This course is an overview of the American federal government. Students will learn political theory and ideology, the history and foundation of the federal government, campaigns and party politics, constitutional issues, domestic and foreign policy, and the structure, functions, branches, and operations of the federal government (including Congress, the presidency, the judiciary, and other federal agencies). Transfer Curriculum Goal(s): 5, 9

POLS 1210 – Environmental Politics (3 credits)

Prerequisite: READ 0220 Reading Strategies or placement determined by assessment score. Co-Requisite: none

This course in environmental politics will examine the human impact on the natural world - globally, regionally, and locally. It will examine the effects on both the national and international level. It will discuss the impact of recent environmental changes and examine various, potential, often conflicting, political solutions to the problems. Topics covered may include, but will not be limited to, global climate change, population patterns, energy use, international conflict and social justice. Transfer Curriculum Goal(s): 5, 10

Practical Nursing (PRSG)

PRSG 1110 – Foundations of Practical Nursing (3 credits)

Prerequisite: BIOL 1240 Health and Disease in the Human Body, ENGL 1276 English Composition, HPPC 1002 Medical Terminology, HPPC 1000 Medical Dosages, and HPPC 1004 Pharmacology. Must be admitted to Practical Nursing program. Co-Requisite: none

This course will provide an introduction to the theoretical foundation for basic focused assessment and nursing skills. Students will be given an opportunity to demonstrate skills in the laboratory setting. Instruction of the nursing process provides the student with a beginning framework for decision making. The key concepts of teamwork and collaboration, safety, quality improvement, professional identity/behavior, patient/relationship centered care, nursing judgment/evidence based practice, and managing care and informatics/technology are introduced. Application of pathophysiology and nutrition concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none

PRSG 1200 – Nursing Care of the Adult Theory I (4 credits)

Prerequisite: BIOL 1240 Health and Disease in the Human Body, ENGL 1276 College Composition, HPPC 1002 Medical Terminology, HPPC 1000 Medical Dosages, and HPPC 1004 Pharmacology. Must be admitted to the Practical Nursing program. Co-Requisite: none

This course will focus on the care of adults and older adult clients and assists the student in applying the concepts of the health-illness continuum, nursing process and holism in health promotion, and illness prevention. Students will study the disease processes, as well as nursing management for the client with respiratory, cardiovascular, hematological, lymphatic, endocrine and immune disorders. Application of pathophysiology, nutrition and pharmacology concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none
PRSG 1300 – Medication Administration for Practical Nurses (3 credits)
Prerequisite: BIOL 1240 Health and Disease in the Human Body, ENGL 1276 College Composition, HPPC 1000 Medical Dosages, HPPC 1002 Medical Terminology, and HPPC 1004 Pharmacology. Must be admitted to the Practical Nursing program. Co-Requisite: none
This course will provide an introduction to fundamental concepts of medication administration. Students will be given an opportunity to demonstrate safe medication administration skills in simulated clinical settings for diverse individual patients across the lifespan. Core concepts and application of pharmacology and drug management will be integrated throughout the course. The role of technology for safe medication administration and legal documentation will be explored. Transfer Curriculum Goal(s): none

PRSG 1410 – Human Development Across the Lifespan (2 credits)
Prerequisite: BIOL 1240 Health and Disease in the Human Body, ENGL 1276 English Composition, HPPC 1000 Medical Dosages, HPPC 1002 Medical Terminology, and HPPC 1004 Pharmacology. Must be admitted to Practical Nursing program. Co-Requisite: none
This course will focus on the theories of human development and progressive stages of physical, psychosocial, cognitive and moral development throughout the lifespan from prenatal considerations to end of life. Students will apply evidence-based practices and theories which will promote patient-centered, high quality of life healthcare delivery interventions. Transfer Curriculum Goal(s): none

PRSG 1500 – Clinical Lab I (4 credits)
Prerequisite: BIOL 1240 Health and Disease in the Human Body, ENGL 1276 College Composition, HPPC 1000 Medical Dosages, HPPC 1002 Medical Terminology, and HPPC 1004 Pharmacology. Must be admitted to Practical Nursing program. Co-Requisite: none
This course provides the student opportunities to apply nursing judgment using the nursing process to implement safe, patient/relationship centered care in selected healthcare settings. Students will complete focused assessments, collect data and implement skills learned in the classroom lab settings. Students will develop therapeutic/collegial communication and customer service skills working with individual patients, families and healthcare team members. Pathophysiology, nutrition and pharmacology concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none

PRSG 2100 – Nursing Care of the Adult Theory II (4 credits)
Prerequisite: PRSG 1110 Foundations of Practical Nursing, PRSG 1200 Nursing Care of the Adult Theory I, PRSG 1300 Medication Administration for Practical Nurses, PRSG 1410 Human Development Across the Lifespan, and PRSG 1500 Clinical Lab I. Co-Requisite: none
This course will build upon the concepts learned in Nursing Care of the Adult Theory I. Students will continue to apply the concept of the health-illness continuum, nursing process, and holism in health promotion and illness prevention. Student will study the disease processes, as well as nursing management for the client with digestive, reproductive, genitourinary, neuro-sensory, integumentary, musculoskeletal disorders and patients who require operative care. Application of pathophysiology, nutrition, and pharmacology concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none

PRSG 2210 – Psychosocial Nursing Care (2 credits)
Prerequisite: PRSG 1110 Foundations of Practical Nursing, PRSG 1200 Nursing Care of the Adult Theory I, PRSG 1300 Medication Administration for Practical Nurses, PRSG 1500 Clinical Lab I, and PRSG 1410 Human Development Across the Lifespan.
Co-Requisite: none
This course will focus on the understanding of human behavior and assists in developing skills in the care of clients with psychiatric and social/behavioral problems. Students will explore common psychiatric and behavioral disorders as well as promote and maintain the mental health of individuals. Application of pathophysiology, nutrition, and pharmacology concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none

PRSG 2220 – Nursing Care of Women, Infants and Children (2 credits)
Prerequisite: PRSG 1110 Foundations of Practical Nursing, PRSG 1200 Nursing Care of the Adult Theory I, PRSG 1300 Medication Administration for Practical Nurses, PRSG 1500 Clinical Lab I, and PRSG 1410 Human Development Across the Lifespan.
Co-Requisite: none
This course will focus on a family-centered approach to obstetric nursing and care of the pediatric client. Students will explore normal and high-risk pregnancies, normal growth and development, and common pediatric disorders. Application of pathophysiology, nutrition, and pharmacology concepts are applied to common diseases discussed in the course. Transfer Curriculum Goal(s): none
PRSG 2410 – Transition to Practice (2 credits)
*Prerequisite:* PRSG 1110 Foundations of Practical Nursing, PRSG 1200 Nursing Care of the Adult Theory I, PRSG 1300 Medication Administration for Practical Nurses, PRSG 1500 Clinical Lab I, and PRSG 1410 Human Development Across the Lifespan. *Co-Requisite:* none
This course will focus on facilitating the transition of the student to the role of a licensed practical nurse (LPN). Students will learn concepts involved in assigning and monitoring other healthcare personnel, as well as career development options that enhance career mobility. The need for lifelong learning will be emphasized. Standards of practice and the importance of practicing in accordance to state regulations and statutes for the scope of practice for the LPN are examined. Transfer Curriculum Goal(s): none

PRSG 2600 – Clinical Lab II (4 credits)
*Prerequisite:* PRSG 1110 Foundations of Practical Nursing, PRSG 1200 Nursing Care of the Adult Theory I, PRSG 1300 Medication Administration for Practical Nurses, PRSG 1500 Clinical Lab I, and PRSG 1410 Human Development Across the Lifespan. *Co-Requisite:* none
This course will focus on providing a clinical experience for students to apply content learned throughout from the Practical Nursing program. Students will apply nursing judgment using evidence-based care, critical thinking, and clinical judgment to implement safe, patient/relationship-centered care with sensitivity and respect for the diversity of human experience in all age categories across the lifespan. Behaviors of professionalism are incorporated throughout the course. Transfer Curriculum Goal(s): none

Psychology (PSYC)

PSYC 1200 – Introduction to Psychology (3 credits)
*Prerequisite:* READ 0220 Reading Strategies or above; completion/or concurrent enrollment in ENGL 0230 Writing Foundations or appropriate assessment score. *Co-Requisite:* none
This course presents a survey of contemporary and historical psychology, including the biological bases of behavior, the effects of social conditioning and environmental influences on behavior and personality. Additional topics include cognitive mechanisms, social influences, personality disorders and treatment. Transfer Curriculum Goal(s): 5

PSYC 1220 – Environmental Psychology (3 credits)
*Prerequisite:* PSYC 1200 Introduction to Psychology. *Co-Requisite:* none
This course focuses on preferred environments, environmental stress and coping, and conservation behavior in a healthy way to build a more sustainable future. In this course, students will examine the relationship between environment and human behavior. Transfer Curriculum Goal(s): 5, 10

PSYC 1225 – Health Psychology (3 credits)
*Prerequisite:* PSYC 1200 Introduction to Psychology (can be taken concurrently). *Co-Requisite:* none
This course focuses on the psychological and behavioral aspects of physical and mental health, taking into account cross-culturally differences. Students will focus on the mind-body connection, major illness and implications for prevention, and impact on healthcare policy. Transfer Curriculum Goal(s): 5, 7

PSYC 1250 – Life Span Development (3 credits)
*Prerequisite:* PSYC 1200 Introduction to Psychology (can be taken concurrently). *Co-Requisite:* none
This course provides a comprehensive view of human development from conception to death. Topics include research methodology, theoretical perspectives and important aspects of physical, cognitive and psychosocial changes occurring throughout the lifespan. In addition students will focus on the application of research and theory to current issues. Transfer Curriculum Goal(s): 5, 7

General Studies (CRDV)

CRDV 1200 – Advanced Career Development (1 credit)
*Prerequisite:* Read 0220 Reading Strategies and ENGL 0230 Writing Foundations or placement determined by assessment score. This course is designed to help students explore career and educational options. Using a variety of career planning resources, students will explore the world of work, and assess their individual strengths, interests, values, and personality. Students will develop a career plan integrating their knowledge of self and the global work world with the career decision-making process. Transfer Curriculum Goal(s): none

PTCG 1225 – Job Seeking (1 credit)
*Prerequisite:* None. *Co-Requisite:* none
This course offers an individualized approach to developing job seeking skills. The student will create a resume, write a job application letter, complete a job application form, and prepare for the employment interview. Consideration will also be given to the critical attitudes needed for job
keeping. This course should be taken at the end of the program.
Transfer Curriculum Goal(s): none

Reading (READ)

READ 0220 – Reading Strategies (4 credits)
Prerequisite: Placement determined by assessment score. Co-Requisite: none
This course is designed to help students learn and develop critical reading
skills necessary for comprehending, analyzing and interpreting college-level
material. Organizational, time management and test-taking strategies will
be emphasized. Students will be introduced to a variety of genres, including
fiction and non-fiction. College-level vocabulary will be emphasized.
Transfer Curriculum Goal(s): none

Sociology (SOCI)

SOCI 1200 – Introduction to Sociology (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing
Foundations or placement determined by assessment score
Co-Requisite: none
This course presents an overview of the characteristics, structures, and
processes that shape human societies. Students will examine the impact
of social forces on individuals and groups as well as the concurrent effect
of individuals on society. Course emphasis is on cultural diversity and
globalism. Transfer Curriculum Goal(s): 5, 7

SOCI 1205 – Drugs and Society (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing
Foundations or placement determined by assessment score
Co-Requisite: none
This course is a study of the use and abuse of substances labeled as drugs
in society. Topics covered will include specific drugs and their related
pharmacology, histories, uses, and mechanisms of social control. Students
will also examine criminal, economic, and cross-cultural aspects of drug use.
Transfer Curriculum Goal(s): 5, 9

SOCI 1220 – Marriage, Family and Relationships (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations
or placement determined by assessment score. Co-Requisite: none
This course introduces students to the diversity and theoretical perspectives
of human relationships, marriages, and families in contemporary societies.
Students will study diverse families in their functioning around intimacy,
work, children, violence, marriage, divorce, economics, race, and gender.
Common myths and challenges related to stereotypes of the “typical” family
and “functional” relationships will be explored. Transfer Curriculum
Goal(s): 5, 7

SOCI 1225 – Human Diversity (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations
or placement determined by assessment score. Co-Requisite: none
This course provides an overview of individual, institutional, and cultural/societal issues of: racism, sexism, classism, ableism, heterosexism, ageism,
and other forms of oppression. The student will address both disadvantage and privilege, concluding with an examination of social activism. Transfer Curriculum Goal(s): 5, 7

Spanish (SPAN)

SPAN 1001 – Introduction to Spanish (4 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by
assessment score or instructor permission. Co-Requisite: none
This course introduces basic Spanish vocabulary and grammar. Students
will develop reading, writing, listening, and speaking skills using the present
tense and commonly used vocabulary. They will be exposed to and develop
an understanding and appreciation of the literature, history, culture, and
geography of the Spanish-speaking world. Transfer Curriculum Goal(s): 8

SPAN 1002 – Spanish II (4 credits)
Prerequisite: SPAN 1001 Introduction to Spanish, one year of high school
Spanish with a C or better grade or instructor permission. Co-Requisite: none
This course introduces basic Spanish vocabulary and grammar. Students
will develop reading, writing, listening, and speaking skills using the present
tense and commonly used vocabulary. They will be exposed to and develop
an understanding and appreciation of the literature, history, culture, and
geography of the Spanish-speaking world. Transfer Curriculum Goal(s): 8

SPAN 2200 – Intermediate Spanish Language and Culture I (3 credits)
Prerequisite: READ 0220 Reading Strategies or placement determined by
assessment Co-Requisite: none
This course introduces literature, history, culture, and geography of the
Spanish-speaking world. Students will continue to develop their languages
skills and cultural knowledge of the Hispanic world. They will study and
review many aspects of the Spanish grammar, with emphasis on present
subjunctive, ser and estar and preterit/imperfect. Short stories, poems, and
essays will introduce the student to many Hispanic writers, both past and present. Transfer Curriculum Goal(s): 8

SPAN 2250 – Intermediate Spanish Language and Culture II (3 credits)
Prerequisite: SPAN 2200 Intermediate Spanish Language and Culture I
Co-Requisite: none
Students will continue reading, speaking, writing, and listening in the Spanish language for refinement and acquisition of grammar concepts. A variety of literary genres will be studied, including a full length play. Ample opportunity is available for communicating in both oral and written Spanish. A greater awareness of Hispanic culture and history will be obtained through readings and cultural vignettes. Transfer Curriculum Goal(s): 8

Speech (SPCH)

SPCH 1250 – Intercultural Communication (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
This course investigates the theories and processes of intercultural communication through both cognitive and experiential learning. Course topics include the elements of culture, variations in cultural dimensions that affect communication across cultures, prevailing cultural belief and value systems, and an examination of human diversity both internationally and within American culture. Transfer Curriculum Goal(s): 1, 7

SPCH 1270 – Introduction to Speech Communication (3 credits)
Prerequisite: READ 0220 Reading Strategies, ENGL 0230 Writing Foundations or placement determined by assessment score. Co-Requisite: none
This course investigates the processes of interpersonal and small group communication, and practices of public speaking. Students will examine theories of communication and will participate in various forms of interpersonal, small group, and public communication. Along with the emphasis on communication studies, students will practice and heighten their skills of communicating with others directly, thinking critically, organizing ideas clearly, and speaking and listening effectively. Transfer Curriculum Goal(s): 1, 2

Welding (WELD)

WELD 1501 – Introduction to Welding (3 credits)
Prerequisites: none. Co-Requisites: none
In this course, students learn about basic oxy/fuel cutting and welding, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) processes and the safety concerns connected with them. To demonstrate their knowledge, students will practice appropriate welding techniques as applied to various materials and joint types in the flat, horizontal, vertical, and overhead positions. Transfer Curriculum Goal(s): none

WELD 1560 – Interpreting Symbols (2 credits)
Prerequisites: none. Co-Requisites: none
This course examines 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. 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. Transfer Curriculum Goal(s): none

WELD 1562 – Oxyfuel Welding and Cutting Process (3 credits)
Prerequisites: none. Co-Requisites: none
This course covers the use of oxy-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. Transfer Curriculum Goal(s): none

WELD 1564 – Shielded Metal Arc Welding (SMAW) (3 credits)
Prerequisites: none. Co-Requisites: none
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. Transfer Curriculum Goal(s): none

WELD 1566 – Gas Metal Arc Welding (GMAW) / Flux Cored Arc Welding (FCAW) (3 credits)
Prerequisites: none. Co-Requisites: none
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. Transfer Curriculum Goal(s): none

WELD 1568 – Gas Tungsten Arc Welding (GTAW) (3 credits)
Prerequisites: none. Co-Requisites: none
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. Transfer Curriculum Goal(s): none

WELD 1570 – Metallurgy and Mechanical Properties of Materials (1 credit)
Prerequisites: none. Co-Requisites: none
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. Transfer Curriculum Goal(s): none

WELD 1590 – Welding Internship (2 credits)
Prerequisites: Instructor Approval. Co-Requisites: none
This course is designed around a student attaining an internship in a business. The student internship may be paid or unpaid as agreed to between the student and the business. The student will demonstrate welding competencies as designed by the instructor and the business. A person from the business will monitor the student’s work. The student will demonstrate professionalism and proper welding techniques to pass the course. The instructor will maintain bi-weekly contact with the business to discuss the student progress reviews. An internship plan will be developed for each student. Actual hours of on-the-job work experience will be outlined in the internship plan, but shall be no less than 80 hours in total. Transfer Curriculum Goal(s): none
Faculty Directory

Jennifer Baker-Jones, Psychology
B.A. Marquette University
M.A. University of Minnesota Twin Cities

Elayne Beehler, Associate Degree of Nursing
A.S. Anoka-Ramsey Community College
B.S.N. Metropolitan State University
M.S. Metropolitan State University

Adam Bezdicek, Librarian
B.A. Gustavus Adolphus College
M.A. University of St. Thomas
M.S. St. Catherine University

Ann Boldt, English
B.S. University of Wisconsin-Eau Claire
B.S. University of Minnesota, Mankato
M.A. Minnesota State University, Mankato
M.F.A. Minnesota State University, Mankato

Kathleen Daniels, Medical Assistant Program
A.S. Argosy University

Philip Darg, Speech/History
B.A. University of Minnesota Twin Cities
M.A. Minnesota State University, Mankato
Ph.D. University of Minnesota Twin Cities

Julie Dillenburg, Advanced Manufacturing Technology Diploma
Pine Technical and Community College

Melissa Felland, Early Childhood Development
B.S. University of Minnesota Twin Cities
B.S. University of Minnesota Twin Cities

Stacey Foster, English
B.S. University of Minnesota-Duluth
M.F.A. Hamline University

Marc Fournier, Microeconomics
B.A. University of Minnesota Twin Cities
M.A. University of Wyoming

Alexis Grinde, Biology
B.S. Bemidji State University
M.S.C. University of North Dakota
Ph.D. University of Minnesota

Gavin House, Business Administration
B.A. University of St. Thomas
M.A. University of St. Thomas
M.A. Bethel University

Eric Jensen, Biology
B.S. University of Wisconsin- Stevens Point
M.S. University of Minnesota- Duluth

Christopher Keeler, Gunsmithing Technology
A.A.S. Pine Technical and Community College

Carleen Kendall, Nursing Assistant
A.S. Anoka-Ramsey Community College

Janet Kinney, Mathematics
B.S. University of Cape Town
M.S. University of Cape Town

Kathryn Krier, American Sign Language
A.A.S. University of St. Catherine

Jennifer Kroschel, Associate Degree of Nursing
Diploma, Algonquin College
B.S. University of Victoria

Bret Lommel, Welding Technology
A.A.S. Alexandria Technical and Community College

Kristin Madigan, Practical Nursing
B.S.N. University of Minnesota, Mankato
M.S. Minnesota State University, Mankato
Christopher Morgan, Cyber Security  
A.S. Community College of the Air Force  
B.S. National American University  

Anthony Mueller, Computer Programming  
M.S. University of Minnesota Twin Cities  

Kevin Muramatsu, Gunsmithing and Firearms Technology  
Certificate, Pine Technical College  
B.S. Olivet Nazarene University  

Gregory Pardun, Automotive Technology  
Diploma, Dakota County Technical College  

John Singh, Emergency Medical Services  

Sally Stinson, Nursing Assistant  
A.S. Pine Technical & Community College  
B.S. The College of St. Scholastica  
M.S.N. Western Governors University  

Marcella Sylvester, Nursing Assistant  
Diploma, Anoka-Hennepin Technical College  
A.S. Anoka-Ramsey Community College  

Dione Thoma, Practical Nursing  
A.A.S. College of Saint Catherine- Minneapolis  
Certificate, College of Saint Catherine-Minneapolis  

Rita Watson, Human Services Eligibility Worker  
B.S. St. Cloud State University  

Douglas Wickstrom, Automated Systems Technology  
Technical Diploma, Wisconsin Indianhead Technical College  

Kelly Wray, Spanish  
B.A. Indiana University  
M.A. Indiana University  

Kristen Zbikowski, Philosophy  
B.S. Bemidji State University  
M.A. University of Illinois  

Administration  
Amy Kruse, Chief Human Resources Officer  
B.A. University of Minnesota Duluth  

Joe Mulford, President  
A.A. Moorhead State University  
B.S. Saint Cloud State University  
Master Management and Administration - Metropolitan State University  

Kierstan Peck, Director of Student Success  
B.A. Augustana University  
M.A. St. Ambrose University, Davenport, Iowa  

Shawn Reynolds, Director of Student Affairs  
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M.B.A. University of South Dakota  

Denine Rood, Vice President of Academic and Student Affairs  
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M.B.A. University of Wisconsin La Crosse  
Ed.D. St. Mary’s University  

Jason Spaeth, Dean of Continuing Education and Customized Training  

Janis Wegner, Chief Financial Officer/Chief Information Officer  
B.S. St. Catherine University, St. Paul, Minnesota
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