



Northwest Technical College

Bemidji, Minnesota

905 Grant Avenue SE • Bemidji, MN 56601
800-942-8324 • 218-333-6600 • 218-333-6694 (fax)



2020-2021 CATALOG

Updated 11/2/2020



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AND UNIVERSITIES SYSTEM

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Program course descriptions are available on our website at www.ntcmn.edu
 Click on programs to find courses and 'Program Report Information'
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OFFICES	
General Information	333-6600
Admissions	333-6600
Bookstore	751-1987
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Vice President of Academic Affairs.....	333-6611
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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 University/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 University/College. The information in this catalog is for use as an academic planning tool and is subject to change at any time. Upon printing of this catalog, all previous issues are revoked.

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Harassment of an individual or group on the basis of race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, the Minnesota State Colleges and Universities shall work to eliminate violence in all its forms. Physical contact by designated system, college, and university staff members may be appropriate if necessary to avoid physical harm to person or property.

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MISSION

Northwest Technical College engages, supports, and prepares students for rewarding careers through innovative programs and hands-on learning.

VISION

Northwest Technical College will be a regional leader in providing accessible and innovative education to meet the evolving needs of our diverse students, communities, and workforce.

NTC HISTORY

Northwest Technical College possesses a rich history of growth and change, evolving from a post-secondary vocational institution to a technical college and now into a new model of higher education.

From its beginnings in 1965 with only 99 enrollees, NTC growth now boasts an enrollment of over 1,000 students. Program and offerings started with just 2 to now over 40 in the areas of business, industrial technology, general education courses, and health and human protective services.

A unique alignment between Bemidji State University and Northwest Technical College gives NTC students the option to utilize many of BSU's services. These include residence hall living, meal plans, the Gillett Wellness Center, health services, the library, and access into the many campus events. The two campuses are only a short 10 minutes apart. It is the only such partnership between a technical college and university within the state. NTC students can have the best of both worlds – a taste of university life and a focused, technology-based education which can get them on the road to their careers faster.

Step inside NTC and you will enter a unique 21st century learning environment where technology is the foundation of all instruction, and academic programs present a global perspective. It is a place where students of all ages and backgrounds can start a new career or advance in their chosen professions. NTC is decorated with inspiring artwork for a warm, inviting feel. Cultural diversity is respected and students become part of a close community of classmates, faculty, and staff.

Accreditation:

The College is accredited by the Higher Learning Commission, North Central Association of Colleges and Schools (NCA); 30 North LaSalle Street, Suite 2400; Chicago, IL 50502-0504; phone; 1-800-621-7440.



**Program:
Dental Assisting**

Program Accreditation Agency:
Commission on Dental Accreditation of ADA
211 East Chicago Avenue
Chicago, IL 60611-2678
(312) 440-4653
www.ada.org



Nursing

Accreditation Commission for Education in Nursing (ACEN)
Practical Nursing Diploma and Associate of Science in Nursing Degree Programs
Initial Accreditation: June 30, 2017
Date of Initial Site Visit: September 2019
Current Accreditation Status: Accredited
Next Site Visit: Spring 2024

Program Accreditation Agency:
Accreditation Commission for Education in Nursing
(ACEN)
33423 Peachtree Road NE, Suite 850
Atlanta, GA 30326
(404) 975-5000
Website: <http://www.acenursing.us/accreditedprograms/programsearch.asp>



REGISTRATION CHANGES (DROP / ADD / WITHDRAWAL)

Registration changes are subject to a policy that includes when such changes can be made and the parameters under which these changes may take place. Refer to the Registration Change--Drop / Add / Withdrawal Policy located in the Campus Handbook.

REGISTRATION

All new students who have completed the requirements for admission and initial registration are eligible to register for courses. Returning students in good standing are eligible to register. Registration is conducted online, and registration priority is based on cumulative credits completed. The College may impose registration holds when necessary, for reasons such as:

- Overdue account with the College
 - Northwest Technical College complies with Minnesota Statute 197.775 which exceeds all criteria of Title 38 United States Code Section 3679(e).
- Academic suspension
- Non-compliance with College Readiness policy
- Required information has not been submitted (e.g., college transcripts for financial aid verification, immunization documentation)
- Lack of fulfillment of prerequisites (course hold)
- Failure to complete the required Sexual Violence Prevention Training.

ADVANCED STANDING

Advanced standing refers to credit granted and transcribed by the College for previously gained knowledge and skills that are equivalent to coursework at the College. Such credit may be granted through various means: direct transfer of courses of equivalent nature that were completed at other regionally accredited institutions of higher education; by examination; by College Board programs--i.e., Advanced Placement (AP), College-Level Examination Program (CLEP), and International Baccalaureate (IB); experiential learning, military or other course work that is transcribed and can substitute for program credit; and/or through formal Technical Preparation (Tech Prep) agreements with high schools.

Credit Transfer:

Northwest Technical College grants transfer credit for individuals enrolled in a college major based on the following criteria:

- Applicable credits from regionally accredited institutions will generally be accepted for transfer. Transfer of applicable credits from institutions accredited by other national accrediting agencies may be reviewed on a case-by-case basis for those institutions listed by the U. S. Dept. of Education (http://www.ed.gov/admins/finaid/accred/accreditation_pg6.html). Transfer of applicable international credits will be reviewed on a case-by-case basis.
- Transfer decisions are not made solely on the source of accreditation of a sending program or institution.
- Minnesota Transfer Curriculum (MnTC) courses that have been taken at other Minnesota State institutions that apply to the student's major are automatically transferred.
 - The course work to be transferred must be comparable in nature, content, and level to NTC courses and must be appropriate and applicable to the learning experiences required of the declared major.
 - Non-MnTC (technical and applied general education) courses accepted in transfer must have a grade of at least "C." MnTC courses must have a grade of at least "D" unless program major policy requires a grade of at least "C."
 - Pass (P) credits cannot be used to transfer to a technical area.

- Technical credits that have been completed within five years are eligible for transfer. MnTC and applied general education courses have no time limit.
- Official transcripts must be on file for transfer credits to be recorded.
- Credits that are part of a signed articulation agreement will be accepted for transfer.
- If a student changes majors from the one initially declared, transfer courses must be re-evaluated for applicability to the new major to ensure that all appropriate credits are applied.

Appeal of Credit Transfer Decisions: The results of credit transfer evaluations may be appealed using the college's normal [Appeals and Grievance Process](#). If the student is not satisfied with the college transfer appeal decision, the student may submit a request to the Minnesota State Senior Vice Chancellor of Academic and Student Affairs for a system level appeal of the college transfer appeal decision (see <http://www.minnstate.edu/board/procedure/321p1.html>).

Minnesota Transfer Curriculum: Northwest Technical College will implement the Minnesota Transfer Curriculum as appropriate to the general education requirements of Associate of Applied Science and Associate in Science degrees. Northwest Technical College will inform individuals about transferring the Minnesota Transfer Curriculum and provide for appeals of transfer decisions.

Credit via College Board Programs: Advanced Placement (AP), Credit by Examination Program (CLEP), International Baccalaureate (IB)

Entering students who have taken College Board examinations may receive credit at Northwest Technical College. Credit may be granted for specific courses or electives. Scores must be submitted to the Admissions Office.

To be recognized for credit, AP scores must be 3 or above; CLEP scores must be 50 or above. IB credit will be individually analyzed by the transfer specialist. Credits will be awarded pursuant to Minnesota State policies 3.15, 3.16, and 3.33, and Minnesota Statute 120B.131, Section 16, Subd 3.

Credit by Examination:

An enrolled student with a declared major may challenge a course through an examination for credit. Students challenging a course will be charged an examination processing fee which must be paid prior to taking the examination.

Transcribed credits will count toward academic awards, however, no grade will be assigned and the credits will not count in grade point average calculations. Credits earned through challenge examination do not apply toward full-time status for financial aid. Students cannot repeat an unsuccessful challenge and cannot challenge a course which already appears on the student's transcript. Credit by examination tests (i.e. test outs) for classes in which students are currently registered must be completed within the first four academic days of the start of the semester. Test-out exams must effectively test on at least 75% of the course content. The list of courses which are eligible for credit by examination is available in the Registrar's Office.

Credit for Experiential Learning:

The college recognizes that individuals acquire substantial learning from experiences other than formal education. As a result, the college will award Credit for Experiential Learning under the following circumstances:

- The petitioner provides evidence of the mastery of a minimum of 75% of the learning outcomes of a particular course at an equivalent level of achievement as documented in a specified portfolio

format. This evidence will include all required elements. For assistance with preparing the portfolio, the student can enroll in a planning course offered by the college.

- An experienced instructor of the course in question analyzes the portfolio and verifies equivalency. The decision of the instructor is final.
- A maximum of 25% of the total program credits may be awarded for experiential learning.

The College will provide assistance to the petitioner in how to prepare the portfolio and in selecting the kinds of documentation that would be acceptable. All petitioners must pay a processing fee before the portfolio will be evaluated. Transcribed credits will count toward academic awards; however, no grade will be assigned and the credits will not count in grade point average calculations. Credits earned for experiential learning do not apply toward full-time status for financial aid.

Technical Preparation (Tech Prep) Agreements:

Northwest Technical College will work in partnership with affiliated technical preparation (Tech Prep) consortium(s) and the consortium member high schools to explore and develop ways to help prepare high school students to transition into postsecondary technological education.

Credits earned through advanced standing agreements made with the member high schools will be transcribed when the following requirements have been met:

- A certificate of advanced standing or other official notification by the high school is received by the NTC Registrar indicating that the student earned an A or B in the eligible course and received the recommendation of the instructor (both are required to receive the certificate), AND
- The student has enrolled at Northwest Technical College.

CURRENCY OF CREDITS

Due to the rate of change of technological skill requirements, a student may be required to validate coursework that was completed more than five (5) years prior to expected graduation date. Such validation requires the approval of both the advisor and the division chair. Only courses with grades of C or better may be validated. The division may require that students repeat such courses or take additional coursework.

AUDITING COURSES

Students intending to audit a course (earn no credit) are required to register for the course on a space available basis. Students must indicate their intention to audit at the time of registration. Auditing students may not need to meet regular course requirements but should confer with the instructor as to their privileges and responsibilities in the course. A student who first enrolls for audit status may change to credit status during the first six (6) days of the semester. Courses audited are not included in determining the total credits earned toward a major or the cumulative grade point average. Upon completion of the course, the course entry made on the student's permanent record is indicated with "AU" (audit).

PASS/NO PASS CREDIT

Students may enroll in certain courses on a Pass/No Pass basis. Credits recorded as P/NP are not included in the computation of the student's grade point average, but a limited number of pass credits count toward graduation.

The option to register on a Pass/No Pass basis may be exercised through the drop/add deadline of the semester. The Pass/No Pass registrant is obligated to complete all course requirements and to take all examinations. A Pass grade is awarded for performance equivalent to a C or above. The following restrictions apply to Pass/No Pass registration.

1. Students may accumulate no more than 9 semester credits for graduation under the P/NP grading option.
2. Student may take no more than 1 class per semester on a P/NP basis.
3. Students who are on Academic Probation will not be allowed to register for any courses on a P/NP basis.
4. Prerequisite courses may not be taken on P/NP basis.
5. No class taken initially for a letter grade may be repeated on a P/NP basis.

It is the student's responsibility to consult with his/her instructor and/or advisor prior to choosing the P/NP option for a given course to discuss possible ramifications of taking a class on a P/NP basis, such as the impact on potential for transfer and licensure/certification requirements.

REGISTRATION CHANGES (ADD, DROP, WITHDRAW)

The College allows enrolled students to make changes to their registered courses within certain time limits. Students are encouraged to consult with their advisor before making registration changes. Students are responsible for knowing the actual deadline dates for making registration changes.

Add/Drop Courses. The Add/Drop period is the first five instructional days of the semester. Last Day to Add/Drop dates are determined by the Registrar. *(NOTE: "Instructional days" refers to class days listed on the college's academic calendar, not class sessions of individual courses.)*

Add courses: Students may **add** courses until registration closes at midnight of the Last Day to Add/Drop. Alternative registration options may be applied by the Registrar.

Drop courses: Students may **drop** courses until midnight of the Last Day to Add/Drop without incurring liability for the course tuition and without impacting their GPA. It is important for students to note a student may not drop a course simply by non-attendance. Students can drop a course through the e-services web registration page. Courses dropped by the student within the "Add/Drop" period do not appear on the student's transcript. Financial aid awards will be recalculated minus the credits from the dropped course(s), and the student will not be financially liable for the dropped course. For courses whose first class session is after the Add/Drop date, students must drop the course by the end of the next business day after the first class session to cancel their liability for the course.

Withdrawal Once the Add/Drop period has ended, students who decide to discontinue attending a class must complete a course withdrawal. Withdrawing from a course does not reduce the tuition obligation. The Last Day to Withdraw date is established by the Registrar. Students should consult their E-Services for specific dates.

Withdraw from a course: Students may officially **withdraw from** a course until midnight of the official Last Day to Withdraw (see above). It is important for students to note a student may not withdraw simply by non-attendance. Students can withdraw from a course through the e-services web registration page. If a student withdraws from a course after midnight of the fifth instructional day and prior to midnight of the official withdraw date of the semester, a grade of **W** (*Withdraw*) will appear on the student's academic record. When a student stops attending a course for which he/she is registered without officially withdrawing from that course, the student will receive the earned grade for the course and remains liable for tuition and fees for that course.

Withdraw from all courses. Students who withdraw from all courses (entirely withdraw from the college) after the Drop/Add date are entitled to a partial refund of tuition in accordance with the schedule specified in the [2090-1-01 Tuition Refund](#) policy.

Courses of Shorter Duration: Proportional time limits for withdrawing from all courses (80% of course length) are applied to courses of shorter duration than one semester.

Student Responsibilities: It is the responsibility of the students to know all registration deadline dates, to manage and monitor their own course registrations, and to determine what impact registration changes will have, if any, on their progress toward program completion and on their tuition obligation and their financial aid. Repayment of financial aid received is usually required as the result of course withdrawals.

CANCELLATION OF REGISTRATION DUE TO NON-PAYMENT

The College is dedicated to providing access to its courses to students who in return fulfill their financial obligations. In accordance with [Policy 5.12](#) of the Minnesota State Colleges and Universities, registration will be cancelled for students who have not met one of the following conditions by no later than five business days after the first day of classes in any semester:

- NTC's Financial Aid Office has received the results of the student's financial aid application (FAFSA -- Free Application for Federal Student Aid), OR
- NTC's Business Office has received a down-payment of \$300 or 15% of tuition and fees due for the semester, OR
- The student has submitted a Third Party Billing Authorization to NTC's Business Office, OR

The President or designee may grant short-term tuition and fee payment deferrals in cases where, due to exceptional circumstances, a student needs additional time to arrange third-party financing or otherwise satisfy a tuition and fee balance due. Deferrals must document the reason for and time duration of the deferral and must be signed by the President or designee.

CANCELLATION OF REGISTRATION DUE TO NON-ATTENDANCE

In order to maximize enrollment opportunities for all students, if a student has not attended a single class session or contacted the instructor of a course for which he/she is registered (i.e., is a "no-show") by the fifth class day of the semester, the College reserves the right to cancel the student's registration for that course.

This policy does not negate the student's responsibility to manage his or her own registration (see [Policy 2065-1-01 Registration Changes](#)). Financial aid awards will be recalculated minus the credits of the cancelled course(s), and the tuition billing will be adjusted.

GENERAL EDUCATION, MINNESOTA TRANSFER CURRICULUM, CORE ABILITIES, APPLIED GENERAL EDUCATION

General education curricula assist individual development as a person and citizen. Technical education prepares the student to achieve success within a chosen career area.

The College implements the Minnesota Transfer Curriculum as appropriate to the Associate of Applied Science and Associate in Science degrees. Individuals may transfer courses that are part of the Minnesota Transfer Curriculum among Minnesota State institutions. NTC's Appeals and Grievance process provides for appeals of transfer decisions (see Policy 3020-1-01, Credit Transfer).

Program faculty members, in conjunction with industry and advisory committees, determine general education course requirements for individual programs. The minimum credit requirements are outlined in the General Education Credit Requirements table below. (See the Catalog for specific course requirements.)

Total Program Credits	Minimum Requirement MN Transfer Curriculum Gen Ed	Minimum Category Requirement
AS Degree	30 credits	6 categories
AAS Degree	15 credits	3 categories

Minnesota Transfer Curriculum General Education for Associate Degree programs

NTC requires that each Associate Degree program include a minimum number of [Minnesota Transfer Curriculum General Education](#) credits. The [Minnesota Transfer Curriculum General Education](#) courses listed below are identified by the *Minnesota Transfer Curriculum (MnTC)* goal(s) that they address and are typically accepted as individually transferable to/from other institutions. (NOTE: transfer of credits is determined by the receiving institution.)

	<u>MnTC Goal</u>
ANTH1110	Cultural Anthropology #2, #5
ARTS1000	Art Appreciation #6
BIOL1111	General Biology #3, #10
BIOL2130	Principles of Nutrition #3
BIOL2221	Microbiology #3
BIOL2252	Anatomy & Physiology I #3
BIOL2254	Anatomy & Physiology II #3
BIOL2256	Advanced Physiology #3
CHEM1100	Introduction to Chemistry #3
ECON2204	Markets and Resource Allocation #5
ECON2404	Macroeconomics & Business Cycle #5
ENGL1111	College Writing I #1, #2
ENGL1113	College Writing II #1, #2
HUMN1101	Introduction to Humanities #2, #6
MATH1110	College Algebra #4
MATH1930	Introduction to Math Sciences #4
MATH 2200	Statistics #4
MUSC1100	Music Appreciation #6
NSCI 2203	Environmental Science #3, #10
PHIL1010	Intro to Philosophy #6
PHIL1201	Ethics #6, #9
PHIL2210	Bioethical Issues in Contemporary Society #2, #6, #9

PSYC1105	General Psychology	#5
PSYC2201	Developmental Psychology	#5
PSYC2220	Abnormal Psychology	#5
PSYC2250	Social Psychology	#5
SGNL1100	ASL I	#8
SGNL2100	ASL II	#8
SOCI1110	Introduction to Sociology	#5, #8
SPCH1110	Introduction to Public Speaking	#1
SPCH1120	Interpersonal Communication	#1

Additional **Minnesota Transfer Curriculum General Education** courses can be taken at Bemidji State University or other regionally accredited post-secondary institutions. See your advisor for guidance in selecting appropriate courses.

Minnesota Transfer Curriculum Goals: http://www.mntransfer.org/students/plan/s_mntc.php

- #1: [Communication](#)
- #2: [Critical Thinking](#)
- #3: [Natural Sciences](#)
- #4: [Math & Logic](#)
- #5: [History & Social Science](#)
- #6: [Humanities & Fine Arts](#)
- #7: [Human Diversity](#)
- #8: [Global Perspectives](#)
- #9: [Ethical & Civic Responsibility](#)
- #10: [People & Environment](#)

Core Abilities

Core Abilities are outcomes that the college intends for all its students to develop during their time at Northwest Technical College through courses, as well as through participation in co-curricular activities.

- #1: **Demonstrate effective communication/interaction skills.** – Use effective methods to communicate using written, oral and reading skills. Effectively participate in group or team-based activities.
- #2: **Demonstrate critical thinking/active learning skills.** – Apply critical thinking/problem-solving strategies in multiple contexts. Apply active learning skills to analyze issues relating to a specific field.
- #3: **Demonstrate career/self-development skills.** – Develop career skills to prepare students to enter the workforce. Explore options for Life-Long Learning and professional growth.
- #4: **Demonstrate technology skills.** – Develop technological literacy skills specific to a field. Utilize both general and specific software skills for a specific field/
- #5: **Demonstrate global/multicultural awareness skills.** – Demonstrate personal responsibility in one's civic, social and multicultural environment. Demonstrate understanding of ethical or environmental consequences of choice or behaviors.
- #6: **Demonstrate mathematical skills.** – Develop use of mathematical concepts and reasoning specific to a field. Apply problem solving skills to mathematical concepts.

Applied General Education Courses

NTC programs may include **Applied General Education** (also known as General Studies) credits.

Applied General Education courses are aligned with NTC's six Core Abilities (also known as General Learning Outcomes) and are NOT intended to be individually transferable to/from other institutions. **They do NOT fulfill Minnesota Transfer Curriculum goals.**

The following Applied General Education (non-MnTC) courses address the indicated NTC Core Abilities:

COMM1102	Applied Communications	#1
COMM2250	Technical Communications	#1
SSCI1104	Human Relations	#5
MATH1100	Technical Math	#4
CRLT1102	Contemporary Career Search	#3
CPTR1104	Computerized Business Applications	#4
HPER1410	First Aid/CPR	#3
HPER 2200	CPR Healthcare Provider	#3
BIOL1131	Nutrition	#3
BEST1100	BEST	#3

In addition, several MnTC courses apply to NTC's Core Abilities as well:

NTC Core #1 Communications /Interaction Skills	NTC Core #2 Critical Thinking	NTC Core #3 Career/Self Development Skills	NTC Core #4 Technology Skills	NTC Core #5 Global/ Multicultural Awareness	NTC Core #6 Mathematical Skills
ENGL1111 ENGL1113	ANTH1110 PHIL1010 PHIL1201 PSYC1105 PSYC2201 PSYC2220 PSYC2250	SPCH1110 SPCH1120		ANTH1110 ARTS1000 HUMN1101 MUSC1100 NSCI2203 PHIL1010 PHIL1201 PHIL2210 SGNL1100 SGNL2100 SOCI1110	MATH1110 MATH1930 MATH2200

TUITION & FEES

TUITION

Tuition for a Minnesota resident or non-resident is set annually by the Board of Trustees of the Minnesota State Colleges and Universities and charged on a per credit basis. The President will consult with the college's Campus Government on proposals to change the tuition rate prior to submitting the proposal to the Board.

All applicable tuition and fee charges are billed to the student and are payable on or before the first day of the academic term. Tuition not paid or deferred by no later than five business days after the start of classes will result in cancellation of registration pursuant to Minnesota State Policy 5.12 and NTC Policy [1100-1-02](#).

Pursuant to Minnesota Statute 135A.51 and 135A.52, any Minnesota resident 62 years or older may register for and attend classes without payment of tuition or activity fees when space is available after all tuition paying students have been accommodated; however, an administrative fee will be charged unless the student is auditing the course or the course is a non-credit course. Persons seeking to register under this policy may register during the add/drop period after the first day of class.

RESIDENCY

Northwest Technical College does not differentiate tuition rates based on state residency, as approved by the Minnesota State Board of Trustees; however, residents of the reciprocity states of North Dakota, South Dakota, and Wisconsin, as well as the Canadian province of Manitoba, will be charged tuition at the reciprocity rate. Residents of these states and/or province are required to complete reciprocity forms.

COLLEGE FEES

Various fees will be assessed to students depending upon enrollment status, courses attempted, and services offered by the campus attended. The following is a list of the fees that may be assessed. Fees unique to a program or a class offering are detailed in the course requirement list. Fees are established annually by the President. A fee schedule is available from the College Business Office for the current academic year.

Application Fee

All students entering the College will be assessed a one-time, non-refundable application fee.

Student Activity Fee

A student activity fee will be charged to students. The activity fee is allocated to Student Service activities.

Late Payment Fee

Late payment fees will be assessed on the 21st day of each semester to any student who has not paid tuition, when no proof of financial aid or other funding is provided. The fee is based on the number of credits for which a student is registered. Northwest Technical College complies with Minnesota Statute 197.775 which exceeds all criteria of Title 38 United States Code Section 3679(e).

Professional Liability Fee

Professional liability fees will be assessed to students enrolling in courses requiring clinical/internship experience. This fee is used to purchase professional liability insurance on the student's behalf.

Parking Fee:

Parking permits are required to park in the College parking lots and may be purchased in the Business Office.

Technology Fee:

Northwest Technical College will assess on a per-credit basis a technology fee. Proceeds from this fee will be used to support the personnel, hardware, software, and technical infrastructure of the college.

Test Out Fee:

When a student wishes to test out of a course through credit by examination, a test out fee will be assessed. The fee will be based on the lab/lecture content of the course.

Credit for Experiential Learning Fee:

When a student wishes to have his/her experience reviewed for course equivalency for college credit, a fee will be assessed. The fee will be based on the total credits for the course(s) for which the person's experience is judged to be equivalent.

Student Association Fee:

All students will be assessed a fee which is passed on to the Minnesota State College Student Association for college membership dues. This fee will be assessed on a per credit basis.

FEE TYPE:	RATE:	COMMENTS:
Application Fee	\$20.00 (One Time)	
Tuition	2020-21 Tuition: \$178.15 per credit	Resident & Non-Resident
	Tuition-Special Program:	
Automotive Service, Construction Electricity, Residential Plumbing/HVAC Dental Assisting, Nursing	\$190.15 per credit	Resident and Non-Resident
Welding and CMAE Section 40	\$190.27 per credit	Resident and Non-Resident
Distance Education	\$199.00 per credit	Resident and Non-Resident
360 Center of Excellence	\$192.61 per credit	Resident and Non-Resident
	Fees:	
Senior Citizens Administration Fee	\$12.00 per credit	In-lieu of tuition
Student Activity Fee	\$1.38 per credit	Required
Student Association Fee	\$.35 per credit	Required
Late Fee	\$50.00	Assessed on the 21 st day to students with unpaid tuition
Parking Permit	\$59.34 Annual	Parking permit needed to park in College lots.
Professional Liability Insurance Fee	\$10.25 / year / student	Dental Assisting, Childcare, Young Child Education, Massage Therapist, Nursing Assistant, Nursing/Practical Nursing
Technology Fee	\$8.00 per credit	Required
Assessment Retest	\$10.00 / student	For students who choose to re-test on any Accuplacer assessment
C.N.A. Testing Fee	\$160.00 / student	For C.N.A. students who choose to seek certification
Credit by Examination Fee	\$25 / lecture credit; \$50 / lab credit	For students challenging a course by test-out
Credit for Experiential	Fee is equal to half the tuition for the course(s)	For students requesting credit for prior experience

All tuition and fees are due the first day of the semester or the first day of class unless a deferment has been made through designated personnel.

An account will be considered delinquent if no payment or arrangement has been made by the 21st day of the semester or the due date of the deferment. In the event a class does not follow the semester schedule, an account will be considered delinquent if it is not paid or arrangements to pay are not made by the second day of the class.

In the event an account becomes delinquent, a written notice will be sent to the student which will make the student aware of the delinquency and indicate that registration will be canceled if payment is not received or if a payment arrangement is not made with the designated personnel. Any person who has not responded to the above notice will receive a 20-day letter. This notice will inform the individual that registration will be canceled and he/she no longer will be allowed to attend classes unless financial arrangements are made. This notice will also state that the individual may be turned over to the Minnesota Collection Entity.

In addition, no person with an outstanding account will be allowed to register for the following semester's classes unless she/he receives a special approval from the designated personnel.

All charges are subject to change after review by college administration, Campus Government, or Minnesota State Board of Trustees.

DEFERMENT/PAYMENT PLAN

In accordance with Minnesota State policy 5.12, Northwest Technical College has the ability to grant deferments and payment plans to students demonstrating the need for such arrangements.

A deferment is defined as an agreement between the college and the student to delay payment until financial aid, which is sufficient to cover all student charges, arrives at the College. Financial aid, for this purpose is described as grants, loans, scholarships or third party authorizations. Deferments may be granted from authorized representatives of the financial aid or business office to students with approved federal, state or other financial aid. Payment plans are available only via the third-party lender approved by the Business Office.

TUITION REFUND

Students are entitled to have the opportunity to attend one class session for each registered, for-credit course, without obligation. Subject to the refund for full withdrawal provision of Subpart B, students are 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 purposes of this policy, business days are defined as Monday through Friday (excluding posted holidays).

Tuition will be refunded to students who cancel their registration at the College through a formal process. This policy governs the amount, if any, to be refunded to the student.

- A. Course Drops.** Dropping a course means the student cancels his/her course registration by the fifth (5th) business day of the semester, which is the Add/Drop deadline. Students will receive a 100% refund for courses dropped by the Add/Drop deadline. For classes starting after the fifth (5th) business day of the semester, the student must drop the course by the first business day after the first course session to receive a 100% refund.

- B. Withdraw.** To receive any refund after the fifth day (the Add/Drop deadline), a student must totally withdraw from all courses. This means the student cancels his/her registration for all courses for which he/she is enrolled in accordance with Minnesota State [policy 5.12](#). The following refund schedule is for students who do an official, **complete withdrawal (entirely withdraw from the college)** from Northwest Technical College. To constitute a complete withdrawal, a student must withdraw from all courses for which they are registered in the term. The following refund schedule applies to when a student withdraws entirely from all registrations in a given semester.

Refund for Fall and Spring term (at least 10 weeks in length):

Withdrawal from 6th through 10th instructional day of the semester = 75% refund
Withdrawal from 11th through 15th instructional day of the semester = 50% refund
Withdrawal from 16th through 20th instructional day of the semester = 25% refund
Withdrawal after the 20th instructional day of the semester = 0% refund

Refund for Summer session (at least 3 weeks in length)

Withdrawal from 6th through 10th instructional day of the semester = 50% refund
Withdrawal after 10th instructional day of the semester -0% = refund

Refund for courses less than three weeks in length:

Withdrawal on 2nd day of class = 50% refund
Withdrawal after 2nd day of class = 0% refund

FINANCIAL AID

FINANCIAL AID PROCESS

Follow these steps to apply for financial aid. More information on financial aid is available at the College's web site at www.ntcmn.edu. Please note that applications are processed as they are received so it is to your advantage to apply early. Applications are not complete and awards cannot be made until the Financial Aid Office has received and processed all requested information.

- Apply for a FSA ID (username and password) for yourself (and one parent for dependent students) at <https://studentaid.ed.gov/sa/fafsa/filling-out/fsaid>.
- File a Free Application for Federal Student Aid (FAFSA) at www.fafsa.ed.gov using school code 005759 and the appropriate year's tax and income information. It is encouraged for students and families to utilize the IRS Data Retrieval Tool on the FAFSA.
- Submit documents to the College's Financial Aid Office as requested, including transcripts from all colleges previously attended. Failing to submit this information will result in delays in processing your application.
- You will be notified if your application has been selected for verification (random selection made by the Federal Aid Processing Center). This will require the submission of additional documents. You are encouraged to respond promptly as the Financial Aid Office cannot complete the processing of your application until they receive all required verification documents.

NOTE: Summer students will be required to file an additional Summer Supplement, which will be available in March or April. Contact the Financial Aid Office for more information.

IMPORTANT FINANCIAL AID ELIGIBILITY FACTS

- To be eligible to receive financial aid at Northwest Technical College, students must be enrolled in an eligible program and must be pursuing a degree, diploma or certificate from NTC.
- Students must maintain at least half-time enrollment status (6 credits) each semester to receive loans, work study or MN Child Care Grant.
- Students may not receive more financial aid (including loans) than the established institutional budget. This amount can be obtained from the Financial Aid Office.
- Students receiving outside agency funding may have their work study or loan eligibility reduced.
- Students must have a high school diploma or GED.
- Eligibility is determined by enrollment status on the 6th day of each semester. Enrollment status is defined as follows for all programs except Minnesota State Grant, which defines full-time as 15 credits.
(NOTE: These enrollment definitions also apply to the summer semester.)

Full-time	= 12 or more credits
$\frac{3}{4}$ time	= 9-11 credits
$\frac{1}{2}$ time	= 6-8 credits
Less than $\frac{1}{2}$ time	= 1-5 credits

- Students who withdraw from a course prior to the first day of the course and who withdraw from a course for which financial aid has already been received will be subject to a recalculation of aid and possible repayment.
- Transfer students may be subject to lower loan limits, and mid-year transfers may have limited grant eligibility.
- Students must reapply for aid every year. Each FAFSA process covers three semesters, beginning with fall semester and ending with summer.
- For students who are eligible for the Minnesota State Grant, the FAFSA must be received by the Federal Aid Processing Center within the first 30 days of the semester.
- For late applicants, NTC must have received the results of the FAFSA before the end of any semester for which aid is desired. In addition, loans may not be processed once a student is no longer in attendance and/or not making satisfactory progress.

TYPES OF AID AVAILABLE at NTC

The following financial aid programs are available to assist students, provided the student is eligible and funds remain available.

GRANTS

- Federal Pell Grant
- Minnesota State Grant
- Federal Educational Opportunity Grant (SEOG)
- Minnesota Post-Secondary Child Care Grant
- MN GI Bill

EMPLOYMENT

- Minnesota State Work Study
- Federal Work Study

LOANS

- Federal Direct Subsidized & Unsubsidized Loans
- Federal Parent Loans for Undergraduate Students (PLUS)
- Minnesota Student Educational Loan Fund (SELF)

SCHOLARSHIPS

- Breen Scholarship
- NTC Foundation Scholarships
- Tribal Scholarships
- MN Indian Scholarship

Links to other sources that provide scholarships are posted on the NTC web site. Students are encouraged to seek other outside sources of funding, as well.

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DISBURSEMENT OF FINANCIAL AID

All students are able to charge books through the campus bookstore or through our online Distance MN bookstore. A student is responsible to verify they have enough funds to cover those charges. Financial aid that exceeds institutional charges will be made available to students starting with approximately the 18th day of each semester, Grants will be applied to students' accounts first. Direct loans for first-time borrowers who are first-year students at our college will be delayed for 30 calendar days from the start of their first term of enrollment. (Any subsequent loan disbursements will not be subject to the 30-day delay). Students receiving a loan for a single semester will be split into equal disbursements; one disbursement at the original disbursement date, the other at the midpoint of the semester. Overage checks will then be processed twice per week by the Business Office. Overage checks will be mailed to the student's permanent address, or a student can sign up for Direct Deposit. Checks cannot be picked up.

SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID

Northwest Technical College and Minnesota State Board Policy 2.9, in compliance with Federal and State regulation, requires that all students maintain satisfactory academic progress toward the completion of a degree, diploma, or certificate in order to receive financial aid. Programs covered by this policy include Federal and State Work-Study, loans, grants, and scholarships. The standards used in this policy must include all periods of enrollment, whether or not a student received financial aid.

Satisfactory academic progress measures a student's progress toward the completion of a particular degree or licensure program at NTC. Federal regulations specify that the institutions must measure progress toward the completion of a student's academic program regardless of whether the student received financial aid for the terms and credits measured. In addition to the Satisfactory Academic Progress Policy for Financial Aid, all students must comply with NTC's academic standards as published by the Records Office in order to remain enrolled at NTC.

NOTE: *The Satisfactory Academic Progress Policy for Financial Aid is different than Northwest Technical College's Academic Policy for Satisfactory Progress (policy 3110-1-01). It is possible to be suspended from financial aid and not be suspended from the college. Students are first and foremost responsible for their own academic progress and for seeking assistance when experiencing academic difficulty.*

I. GRADE POINT AVERAGE REQUIREMENT (Qualitative Measure)

Financial aid recipients are required to maintain a 2.0 (C) cumulative grade point average beginning with the first term of attendance. (*Note: A 2.0 GPA is required to graduate*). Grades of A, B, C, D, and F are included in the GPA calculation.

II. PERCENTAGE OF CREDITS COMPLETED AND MAXIMUM TIME FRAME REQUIREMENT (Quantitative Measure)

A. Percentage Completion Requirement: To remain eligible for financial aid, a student is required to progress toward the completion of an academic program by successfully completing 66.67% of all credits attempted at NTC. Courses for which a student receives a letter grade of A, B, C, D, P, and S are included in the calculation of cumulative credit completion percentage as courses successfully completed. Courses for which a student receives a letter grade of F, I, FN, FW, IP, N, NC, NP, NR, W and Z grades will be treated as credits attempted but not successfully completed. Any credits accepted in transfer by NTC are also counted as completed and attempted credits in the completion calculation.

B. Maximum Time Frame (MTF): The maximum allowable time frame for a student to complete an academic program is 150% of the published credit length of the program of record. Credits attempted toward the declared program(s) of study at NTC and transferred in from other institutions are counted for determining this standard. A student who reaches or exceeds the maximum number of credits will have aid terminated at the end of that semester.

III. EVALUATION PERIOD

Financial Aid Satisfactory Academic Progress will be evaluated three times each year after Fall, Spring, and Summer Semester grades are recorded. All prior terms of attempted enrollment are considered when determining satisfactory academic progress regardless of whether aid was awarded for the term.

IV. FAILURE TO MEET STANDARDS

A. Financial Aid Warning

- a. For each evaluation period, the first time a student fails to meet the minimum completion rate or GPA requirement stated above, the student will be placed under a warning status for one semester. Students placed under a warning status are eligible to receive financial aid for the following term of enrollment.
- b. At the conclusion of the warning period, if a student has met NTC's cumulative GPA and percentage completion standards, the student's eligibility for financial aid shall be reinstated.

B. Financial Aid Suspension for Students on Warning Status. If at the end of a semester a student who has been on warning status has not met both the institution's cumulative grade point average and percentage completion standards, NTC shall suspend the student's aid eligibility immediately upon completion of the evaluation.

C. Suspension of Students for Other Reasons

- a. A student who meets or exceeds the maximum time frame allowed during a semester will immediately have their financial aid eligibility suspended at the conclusion of that semester.
- b. Any student may be immediately suspended from financial aid eligibility in the event of extraordinary circumstances, including but not limited to previously suspended (and reinstated) students whose academic performance falls below acceptable standards during a subsequent term of enrollment; students who register for courses, receive financial aid, and do not attend any classes; students whose attendance patterns appear to abuse the receipt of financial aid; and students that have multiple program changes and do not complete his/her declared program(s).
- c. If the institution determines that it is not possible for a student to raise their GPA or course percentage completion to meet the institution's standards before the student would reach the end of the program for which they are receiving financial aid, the institution will suspend the student from financial aid immediately upon completion of the evaluation.

V. APPEALS AND PROBATION

A. A student who fails to meet the satisfactory academic progress standards may appeal to re-establish eligibility by completing a Petition for Reinstatement of Financial Aid. This form is available from the NTC Financial Aid Office website. The petition may be based on undue hardship, death of a relative, injury or illness; or extenuating circumstances as determined by the institution. Petitions must be supported with appropriate documentation and verification and will be reviewed on a case-by-case basis. An approved academic plan is also required as part of the petition.

When considering a petition, a student's prior academic history, test scores, and potential for successful completion of the academic program will be considered. A petition for the reinstatement of financial aid will be reviewed by the Director of Financial Aid or a designee. A student will be notified of the results on a return copy of the petition. Any student whose petition is denied may appeal the denial to the Financial Aid Review Committee. In some instances, it is possible for a student to successfully petition and be reinstated through the Records Office in order to register for courses but have a financial aid petition denied for the same term.

B. A student with an approved petition for reinstatement of financial aid will be placed on financial aid probation. While on this probation status, a student will be eligible to receive financial aid, but must also meet the terms that are set forth in the approved petition.

VI. NOTIFICATION

Students will be notified in writing of his/her warning status and cancellation/suspension of financial aid. These notifications are made once semester grades are recorded and the satisfactory academic progress review is completed. A student who is petitioning for a probation period on financial aid will receive a return copy of the petition with the results clearly stated on the form.

VII. REINSTATEMENT OF FINANCIAL AID

The approval of a Petition for Reinstatement for Financial Aid places a student on probation with the Financial Aid Office. An approved petition will state the terms of the probation semester and the specific conditions that apply. During this probation period, a student is eligible to receive financial aid. At the conclusion of the probation semester, if the student has not met cumulative satisfactory academic progress minimum standards but has met the conditions of the approved petition, the student will automatically have the probation extended for the next term(s) of enrollment. Neither paying for their own classes nor sitting out a period of time is sufficient in and of itself to re-establish a student's financial aid

eligibility. Students may have their financial aid eligibility reinstated by again meeting the cumulative GPA and percent completion requirements. If a student who is not meeting satisfactory academic progress has a late grade recorded or receives a grade change at any time during the academic term, the student should contact the Financial Aid Office to check his/her financial aid eligibility.

VIII. ADDITIONAL ELEMENTS

- A. Treatment of grades:** In the percentage completion calculation, grades of A, B, C, D, P, or S are considered attempted and successfully completed grades. Grades of F, FN, FW, I, IP, N, NC, NP, NR, W, or Z (no grade) are considered attempted but not successfully completed.
- B. Academic Amnesty/GPA Adjustment for Returning Students:** Academic Amnesty and Grade Point Average (GPA) Adjustments are not available for financial aid recipients. All attempted credits are counted in financial aid satisfactory academic progress.
- C. Audited Courses:** Audited courses (AU grade) will not be funded by financial aid and are not included in any financial aid satisfactory academic progress measurements.
- D. Consortium Credits:** Credits for which financial aid is received under a consortium agreement will be included in cumulative GPA, completion percentage, and maximum time frame calculations.
- E. College Readiness/Remedial/Developmental Credits:** All remedial/developmental courses are included when determining satisfactory academic progress for GPA and completion percentage. Up to 30 remedial credits shall be omitted when determining maximum time frame.
- F. Repeated Credits:** Upon submission of the repeat form to the Registrar, only the highest repeated grade will be counted toward the cumulative GPA measurement. According to NTC Academic Policy, "program accreditation requirements may impose limits on the number of times a course may be repeated." All credits, original and repeated, are included in determining the 66.67% completion requirement and maximum time frame. However, a student may only receive financial aid to repeat a course once when the previous grade is already passing.
- G. Transfer Credits:** Accepted transfer credits at NTC are included in the maximum time frame calculation. Any credits accepted in transfer at NTC are also counted as credits earned and credits attempted when determining percentage completion. Transfer credits are not included in the NTC GPA calculation.
- H. Withdrawals:** Credits for which a grade of "W" is received are considered attempted credits but not successfully completed credits. A grade of "W" does not impact GPA but does negatively impact the cumulative completion percentage and counts toward the maximum time frame.

NOTE: *The Satisfactory Academic Progress Policy for Financial Aid is different than Northwest Technical College's Academic Policy for Satisfactory Progress (policy 3110-1-01). It is possible to be suspended from financial aid and not be suspended from the college. Students are first and foremost responsible for their own academic progress and for seeking assistance when experiencing academic difficulty.*

RETURN OF TITLE IV FUNDS RETURN OF TITLE IV FUNDS POLICY (Effective 7/1/2011)

Repayment requirements for students who cease enrollment prior to the end of a payment period or period of enrollment: Financial aid recipients, who withdraw or cease attending all of their classes prior to 60% of the term being completed (including courses with a grade of "F", "FW", and "FN" for non-attendance), are subject to the federal rules for the Return of Title IV Funds for any federal aid not earned and the refund calculation for the Minnesota State Grant and SELF loan. A student who does not

complete all days they are scheduled to complete in module courses (that is, courses that do not span the entire length of the semester) are also considered withdrawn and are subject to the Return of Title IV funds rules. A student who withdraws from a module course but is scheduled to attend a module beginning later in the semester, must notify the Financial Aid Office in writing or he/she will be considered withdrawn. For the Return of Title IV funds calculation, the percentage of unearned aid is equal to the number of calendar days remaining in the term (or number of days of attendance remaining in planned modules) divided by the total number of calendar days in the term (or total number of days in planned modules). The calculation of Title IV funds unearned has no relationship to the student's incurred institutional charges as determined by the college's refund schedule for students that officially withdraw from a term. The Registrar's Office is the college's designated office to accept notification of official withdrawals. In the event that the last date of attendance cannot be determined, the mid-date (50%) of the semester will be used. If a grade of incomplete "I" is issued, confirmation from the instructor must be received by the financial aid office verifying the student is actively working on completing the course(s), or a last date of attendance/participation would be used in determining the unearned aid. Students receiving a letter grade for one or more courses may be subject to a recalculation if the student was not actively participating in at least one course to the 60% point of their enrollment period. For faculty initiated withdrawals ("FW" and "FN" grades), a student is not considered an official withdrawal and is subject to a calculation based on the entire enrollment period. The Business Office will determine the repayment based upon federal and state procedures, the last date of attendance, type of aid awarded, and charges for tuition and fees. The repayment amount is considered unearned aid that a student was not eligible to receive because of not completing the term, necessitating the repayment of funds. The college may have an obligation to return funds to an aid program that was previously applied to the student's account. The student may have an obligation to repay funds that were paid directly to him/her. If the college returns funds that were applied to the student's account, a balance due the college by the student will result.

Federal student aid may not cover all unpaid institutional charges due to the college upon withdrawal. Failure to repay will prevent future registration at the college and initiate delinquent collection procedures, which will adversely affect the student's credit rating. *Actual Sample Withdrawal Case:* (1) Student received \$1970 Federal Direct Loan and \$2025 Federal Pell Grant. (2) Student completed only 27% of the semester. (3) Student was required to repay \$2535 of the \$3995 total aid received. A student may contact the Business Office to receive an estimation of the required financial aid repayment, if any.

Non-Federal Funds:

Repayments to state aid programs and non-state aid programs will be calculated on a proportional basis using the institutional refund policy. To calculate the minimum refund due to the Minnesota State Grant, SELF Loan program, and other aid programs, the Office of Higher Ed Refund Calculation Worksheet will be utilized.

ACADEMIC POLICIES AND PROCEDURES

The College publishes current information regarding academic policies and procedures yearly. Please refer to this catalog for detailed information on grading, attendance, graduation requirements, and academic or financial policies. Information is also available on the college website.

ACADEMIC INTEGRITY

Northwest Technical College promotes the highest standards of academic integrity and the highest regard for truth and honesty. Violations of academic integrity include the following:

1. The attempt by students to present as their own any work not actually performed by them
2. Collusion, fabrication, and cheating on examinations, papers, and other course-related work
3. Stealing, duplicating, or selling examinations
4. Substituting for other in class discussions or examinations
5. Producing other students' papers or projects
6. Knowingly furnishing false or misleading academic information to college officials on official college records
7. Altering information on official college records

Violations of this policy are covered under the Student Code of Conduct. In accordance with this Code, students who, after due process, are found to have violated the Academic Integrity Policy shall be subject to college sanctions that may include discretionary sanctions, including failure on assignments and/or examinations, suspension or expulsion.

ACADEMIC CREDIT

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement.

A lecture credit hour is defined as one hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately sixteen weeks for one semester, or the equivalent amount of work over a different amount of time.

A lab credit hour is defined as a minimum of two hours of classroom or direct faculty instruction or at least an equivalent amount of work for other academic activities as established by the college including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Student Credit hours and contact hours presented within this policy are a representative of student workloads to achieve desired learning outcomes and are not necessarily representative of workload or pay provisions of the Collective Bargaining Agreement between Minnesota State Colleges and Universities and Minnesota State College Faculty. All provisions regarding workload and pay for faculty based upon credits or contact hours are defined by the collective bargaining agreement and not this policy.

SATISFACTORY ACADEMIC PROGRESS

Northwest Technical College (NTC) and Minnesota State Board Policy 2.9, in compliance with Federal and State regulation, require that all students maintain satisfactory academic progress as measured by Grade Point Average (GPA) and percent of courses completed. Individual program majors may have additional requirements for satisfactory academic progress.

I. GRADE POINT AVERAGE REQUIREMENT (Qualitative Measure)

All students are required to maintain a minimum 2.0 (C) cumulative grade point average beginning with the first term of attendance. (*Note: A 2.0 GPA is required to graduate*). Grades of A, B, C, D, and F are included in the GPA calculation.

II. PERCENTAGE COMPLETION (Quantitative Measure)

A. Percent Completion Requirement: To remain eligible to attend NTC a student is required to progress toward the completion of an academic program by successfully completing 66.67% of all credits attempted at NTC. Courses for which a student receives a letter grade of A, B, C, D, P, and S are included in the calculation of cumulative credit completion percentage as courses successfully completed. Courses for which a student receives a letter grade of F, I, FN, FW, IP, N, NC, NP, NR, W and Z grades will be treated as credits attempted but not successfully completed. Any credits accepted in transfer by NTC are also counted as completed and attempted credits in the completion calculation.

III. EVALUATION PERIOD

Satisfactory Academic Progress will be evaluated three times each year after Fall, Spring, and Summer semester grades are recorded. All prior terms of attempted enrollment are considered when determining satisfactory academic progress.

IV. FAILURE TO MEET STANDARDS

A. Academic Warning

- a. For each evaluation period, the first time a student fails to meet the minimum completion rate or GPA requirement stated above, the student will be placed under a warning status for one semester.
- b. At the conclusion of the warning period, if a student has met NTC's cumulative GPA and percentage completion standards the student will no longer be on a warning status.

B. Academic Suspension for Students on Warning Status. If at the end of a semester a student who has been on warning status has not met both the institution's cumulative grade point average and percentage completion standards, NTC shall suspend the student and cancel their upcoming semester(s) registration if applicable. The duration of academic suspension is as follows:

- a. First instance: one semester
- b. Second instance: one year
- c. Third instance: two years

V. APPEALS AND PROBATION

A student who fails to meet the satisfactory academic progress standards may appeal to be allowed to continue their education with NTC by completing an Academic Appeal form. This form is available from the NTC website under Records & Registration. Students placed on academic suspension may not be eligible for financial aid, even if their academic appeal is approved and they are reinstated. Reinstated students who wish to appeal financial aid eligibility must follow the financial aid appeal process.

VI. PROBATION

Students with an approved appeal will be placed on academic probation. While on probation, 100% completion and a minimum 2.25 must be achieved each semester until the minimum cumulative requirements are met.

VII. ADDITIONAL ELEMENTS

- A. Audited Courses:** Audited courses (AU grade) are not included in satisfactory academic progress measurements.
- B. Consortium Credits:** Credits under a consortium agreement will be included in cumulative GPA and completion percentage.
- C. College Readiness/Remedial/Developmental Credits:** All remedial/developmental courses are included when determining satisfactory academic progress for GPA and completion percentage.
- D. Repeated Credits:** Only the highest repeated grade will be counted toward the cumulative GPA measurement. According to NTC Academic Policy, "program accreditation requirements may impose limits on the number of times a course may be repeated." All credits, original and repeated, are included in determining the 66.67% completion requirement.
- E. Transfer Credits:** Accepted transfer credits at NTC are included in determining what number of credits a student has attempted for the GPA review. Any credits accepted in transfer at NTC are also counted as credits earned and credits attempted when determining percentage completion. Transfer credits are not included in the actual NTC GPA calculation.
- F. Withdrawals:** Credits for which a grade of "W" is received are considered attempted credits but not successfully completed credits. A grade of "W" does not impact GPA but does negatively impact the cumulative completion percentage.

GRADE POINT AVERAGE

Academic progress will be evaluated in terms of grade point average. The following system will be used to establish a student's grade point average and will be the only grades included in the GPA calculation.

- A= 4 grade points per credit
- B= 3 grade points per credit
- C= 2 grade points per credit
- D= 1 grade point per credit
- F= 0 grade points per credit

A grade point average (GPA) is determined by the sum of all grade points divided by total credits attempted, except those credits that carry grades other than A - F grades.

GRADING

The College uses the following letter grades to document student academic achievement and activity:

- | | | |
|-------------------|---------------------------|--------------|
| A = Excellent | FN = Failed, never attend | W = Withdraw |
| B = Above Average | FW = Failed, walked away | R = Repeat* |
| C = Average | P/NP = Pass/No Pass* | |
| D = Below Average | AU = Audit* | |
| F = Failing | I = Incomplete* | |

* Subject to college policy.

INCOMPLETE GRADES

The college does not encourage the assignment of “Incomplete” grades (I); however, instructors may assign grades of “Incomplete” at their discretion. Students may ask the instructor in writing that they be assigned a grade of “Incomplete” under the following conditions:

- A request must be made in writing to the instructor no later than one week prior to the end of the semester.
- An “Incomplete” (I) grade will be granted only for emergency circumstances only at the discretion of the instructor.

To remove the Incomplete (I) grade, course requirements must be completed by the end of the next semester of regular program offerings. Any “I” not removed by that time will be changed to an “F.” Students may not request an incomplete if they are on probation or if they have an unfinished incomplete from a previous semester.

REPEATING COURSES

In order to successfully complete program requirements, a student may repeat a course for which he/she is unsatisfied with the grade achieved if they do not want the lower grade to be calculated in their GPA. The course must be one that is “owned” and delivered by Northwest Technical College.

Grades for repeated courses not calculated in the GPA shall be denoted by parentheses () on the transcript.

(NOTE: Program accreditation requirements may impose limits on the number of times a course may be repeated. Check with your advisor.)

GPA ADJUSTMENT FOR RETURNING STUDENTS

Students who have less than a 2.00 cumulative GPA may petition for an adjustment of their GPA under the following conditions:

1. A minimum of two (2) years absence from the college;
2. Completion of one semester of full-time (12 credits) attendance with at least a 2.00 GPA for the semester.

The GPA earned from earlier courses may be adjusted to 2.0 or more at the time the above criteria have been satisfied by adjusting previous course work to reflect only those grades of 2.0 or more. This may result in reduced total semester credits earned toward graduation. Course grades not included in the adjusted GPA are placed in brackets [] on the transcript.

PROGRAM INTERRUPTION

Northwest Technical College’s calendar is subject to modification or interruption due to occurrences such as weather, fire, flood, labor disputes, interruption of utility services, Acts of God, epidemic or pandemic illnesses, civil disorders, and war. In the event of such occurrences, the college will attempt to accommodate its students. It does not, however, guarantee that courses of instruction, content goal statements, extra-curricular activities, syllabi or other college programs or events will be completed or rescheduled. See policy [1000-1-01](#) on the College’s website.

CATALOG USE

A student working toward a certificate, diploma or degree will follow the approved program curriculum at the time of acceptance in a major. Students who have maintained continuous enrollment may elect to follow a new approved program curriculum that is adopted during their enrollment. Students who have not attended for more than one academic year from withdrawal or last date of attendance prior to registration must meet the program requirements in effect at the time of their current registration. Course changes and substitutions made by the College are considered part of the program.

GRADUATION

Northwest Technical College grants certificates, diplomas, Associate in Applied Science degrees, and Associate in Science degrees for completion of program majors in accordance with all requirements listed below:

- Minimum cumulative GPA of 2.0.
- All coursework required for the program major(s) successfully completed according to criteria established by the College. NOTE: Programs may have additional graduation requirements. These requirements are published and available from program faculty and advisors. Any additional requirements for graduation are specifically outlined for each program major. It is the student's responsibility to understand and meet graduation requirements.
- Application for Degree completed and submitted one semester prior to graduation.

Students must be approved for graduation by the Registrar. Graduation awards will not be released to students who have an outstanding account balance with the college. The actual graduation date will be within the semester in which all course work, transfer credits and related materials required for program completion are finalized.

Graduation Appeals

Appeals pertaining to graduation requirements must be submitted on the College's Appeals and Grievance form the semester prior to graduation. The appeals will be reviewed by the campus Academic Appeals Committee and then the Dean.

Commencement

The College's Commencement ceremony is held at the end of spring semester. In order to qualify for participation in the ceremony, a student must have no more than 12 credits left to complete in his or her program, be in good academic and financial standing, and be able to complete all remaining courses for his or her program by the following September 1. Students must have an Application for Degree on file with the Registrar.

Students who have a cumulative GPA of 3.5 or higher at the beginning of their final semester of enrollment prior to graduation will be designated in the commencement program as graduating with honors. Honors graduates are distinguished at commencement ceremonies by the wearing of an honors medallion. Members of the Phi Theta Kappa International Honor Society are distinguished at commencement ceremonies by the wearing of the PTK stole.

RESIDENCE CREDITS

Residence credits are credit hours earned from Northwest Technical College. To be eligible for a degree or diploma, a student must earn 1/3 of the credits required for graduation at the granting institution. All credits earned at Northwest Technical College including Distance and Corporate credits, courses taken from Bemidji State University that are listed on the NTC course schedule, credit by examination (successful test outs/challenged credits), and credit for experiential learning will count toward residence credits. For accreditation reasons, programs may require a limited number of key or capstone courses to be completed in residence.

Unless specific exceptions are noted in the program/degree requirements or requirements are waived through a petition process, the College will accept as resident credits those online courses/credits offered by the partner colleges in the Distance Minnesota consortium. These courses are included on the NTC course schedule.

IMMUNIZATION RECORD REQUIREMENT

In conformance with M.S. 135A.14 (2000 revision) Northwest Technical College requires an immunization record be submitted from the following students born after 1956 who did not graduate from a Minnesota high school in 1997 or later.

The immunization record submitted must indicate the month and year the student was immunized against measles, rubella and mumps, after having attained the age of 12 months. The immunization record must also indicate the month and year the student was immunized against diphtheria and tetanus within ten years of first registration at the institution.

Students registered for non-credit, corporate credit or Distance Education courses only are exempt from submitting the required immunization record unless the course requires on-campus lab, internship, clinical or other on-campus contact for the purpose of completing coursework. The Department of Health and the local Board of Health in whose jurisdiction the institution is located may inspect immunization records.

Medical Exceptions: An immunization record is not required if the student submits to an administrator a statement signed by a physician that shows:

1. the student did not receive an immunization for medical reasons;
2. the student has experienced the natural disease against which the immunization protects; or
3. a laboratory has confirmed the presence of adequate immunity.

Additional Exception: If the student submits a notarized statement that the student has not been immunized as required because of the students' conscientiously held beliefs, the immunizations are not required.

Additional Immunization Requirements: Students in certain majors may be required to submit additional immunization records besides those indicated within this policy.

VETERANS BENEFITS

The majors offered by the College have been approved by the Minnesota State Approving Agency for veterans and their dependents eligible for educational benefits under Chapters 30-Montgomery GIBILL®-Active Duty, 31-Vocational Rehabilitation, 33-Post 9/11 GIBILL®, 35-Dependent's Educational Assistance, 1606-Montgomery GIBILL®-Selected Reserve and 1607-Reserve Educational Assistance Program (REAP). Students should contact the Veterans Certifying Official or their local Veterans Administration Office for assistance with the application process and to determine eligibility/entitlement.

Veterans may receive credit for appropriate military training. The campus transfer specialist personnel will determine the number of credits acceptable for transfer. Veterans or veterans' dependents receiving educational benefits must conform to the following regulations to maintain their eligibility:

1. Register for at least 12 credits per semester to receive full benefits; 9-11 credits for three-quarter time; 6-8 for half-time; 4-5 for less than half-time.
(Veterans Administration pays tuition and fees only for 1-3 credits. These credits must apply toward a degree.)
2. Maintain satisfactory academic progress toward graduation.
3. Report any changes in credits (drops/adds), address, or status (i.e. withdrawal) to the VA certifying official.

AFFIRMATIVE ACTION

Northwest Technical College is committed to conducting all personnel and educational activities without regard to race, sex, color, creed, religion, age, national origin, marital status, disability, status with regard

to public assistance, sexual orientation, or membership or activity in a local commission as defined by law. Personnel activities include, but are not limited to: recruitment, selection, placement, employee development, promotion, retention, compensation, leaves of absence, disciplinary action, transfer, demotion, termination, and layoffs affecting all employees and job applicants. Northwest Technical College will not tolerate discrimination on the basis of these protected class categories in accordance with all state and federal equal opportunity/ affirmative action laws, directives, orders, and regulations.

Automotive

Automotive Service and Performance

Diploma – 66 credits

Description

The Automotive Service Technician is a person working in an exciting and rapidly changing industry. Students in this program will receive training in the many service and diagnostic procedures necessary to maintain our nation on wheels. Students are trained in modern laboratories equipped with current service and testing equipment. Opportunities for advancement may include factory and dealer representatives, management, and self-employment.

Employment

A career in the exciting automotive service industry holds many rewards. Among these is the continued satisfaction from the occupation you are engaged in, plus a sound financial future. Our graduates have found employment positions as service technicians, alignment and brake specialists, air conditioning and heating specialists, and shop owners. Students have the opportunity to work part-time in an automotive field while attending school. With 40,000 auto dealers, 120,000 independent garages, 200,000 service stations and service centers in the U.S., the job and advancement opportunities are plentiful for the trained auto technician. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Degree Requirements

Required Courses

AMST 2001	Introduction to Transportation	1
AMST 1002	Introduction to Automotive Electrical/Electronics	4
AMST 1220	HP Drivelines	4
AMST 1330	HP Fuel/Electronics Ignitions	4
AMST 1003	Engine Theory/Service	4
AMST 1016	Brakes	4
AMST 1104	Power Train Systems	4
AMST 1105	Steering and Suspension	4
AMST 1130	Automotive Electrical II	4
AMST 2113	Heating Ventilation A/C	2
AMST 2215	Motorsports Fabrication	4
AMST 2216	Engine Performance	2
AMST 2217	Engine Performance Lab	4
AMST 2220	Introduction to Hybrid Vehicles	2
AMST 2230	Auto Diesel/ Diesel Performance	3
AMST 2236	Chassis Dynameter Lab	2
AMST 2242	Forced Induction Systems	3
AMST 2800	Capstone	4
COMM 1102	Applied Communication	3
HPER 1410	First Aid / CPR	1
MATH 1100	Technical Math	3
	TOTAL CREDITS	66

Business

In this section – programs in:

Accounting
Administrative Support
Business
Computer Support
Human Resources
Management & Entrepreneurship
Sales, Marketing & Management

Accounting Programs

Accounting

Certificate – 18

This program will increase your practical knowledge and abilities in the field of accounting, you can position yourself to advance in your career and increase your marketability. The following areas will be covered in this program: auditing, taxes and budgeting from a business perspective. Completion of this program can also lead into a diploma or AAS option.

Course #	Course Name	Credit
Required Courses		
ACCT 1120	Legal Environment	3
ACCT 1134	Computerized Accounting Applications	3
ACCT 2201	Accounting I: Financial Accounting	4
ACCT 2203	Accounting II Managerial Accounting	4
CPTR 1104	Computerized Business Applications	3
CRLT 1102	Contemporary Career Search	1
Total Credits		18

Accounting Clerk

Diploma – 32

Description

This major provides the knowledge and skills necessary to perform routine calculating, journalizing, posting, and verifying duties to maintain accounting records, prepare payroll reports, and state and federal tax returns. Both manual and computerized accounting concepts and applications are included.

Employment

Every business whether small, corporate or non-profit has accounting responsibilities to complete and the need for accounting assistance. Public accounting firms, banks, hospitals, school districts, private businesses, governmental agencies and many private accountants offer accounting clerk positions. Find out more about salary, job outlook and career opportunities for this program at [ISEEK – Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
ACCT 1000	Financial Information for Life	3.00
ACCT 1124	Spreadsheet Concepts	3.00
ACCT 1134	Computerized Accounting Applications	3.00
ACCT 2200	Income Tax	3.00
ACCT 2201	Accounting I: Financial Accounting	4.00
ACCT 2203	Accounting II: Managerial Accounting	4.00
ADMS 1116	Business Communications	3.00
ADMS 2124	Advanced Micro Computer	3.00
MKTG 1108	Customer Relations Mgmt	3.00
CPTR 1104	Computerized Business Applications	3.00
Total Credits:		32

Accounting

AAS – 60 credits

Description

This major provides the knowledge and skills necessary to examine, analyze, interpret, and correct accounting data for the purpose of financial statements, budgets, forecast accounting reports, payroll reports, and state and federal income tax returns. Computerized accounting concepts are included in this area of study.

Employment

Accounting opportunities are available in nearly every city in America. Accountants are employed by public accounting firms, banks, hospitals, school districts, private business of every type and non-profit governmental agencies. Many accountants choose to begin their own accounting practice. Find out more about salary, job outlook and career opportunities for this program at [ISEEK – Minnesota’s career, education and job resource](#).

Course #	Course Name	Credit
ECON 2204	Markets & Resource Allocation	3.00
ENGL 1111	College Writing I	3.00
MATH 1110	College Algebra	3.00
PHIL 1201	Ethics	3.00
SELECT ADMS2124 or CPTR1106		
ADMS 2124	Advanced Micro Computer	3.00
CPTR 1106	Microcomputer Databases	3.00
ADMS 1116	Business Communications	3.00
BUSN 2100	Business Statistics	3.00
MKTG 1108	Customer Relations Mgmt	3.00
Required Courses		
CPTR 1104	Computerized Business Applications	3.00
ACCT 1000	Financial Information for Life	3.00
ACCT 1120	Legal Environment	3.00
ACCT 1124	Spreadsheet Concepts	3.00
ACCT 1134	Computerized Accounting Applications	3.00
ACCT 2200	Income Tax	3.00
ACCT 2201	Accounting I: Financial Accounting	4.00
ACCT 2203	Accounting II: Managerial Accounting	4.00
ACCT 2204	Intermediate Accounting I	4.00
ACCT 2218	Fund/Nonprofit Accounting	3.00
	General Education Electives	3
Total Credits:		60

Administrative Support Programs

Administrative Business Specialist

Certificate – 18 credits

Description

This 18-credit certificate program provides the necessary foundation for students interested in administrative work or continuing in their education toward a diploma or Associate of Applied Science (AAS) degree. The applicable coursework will focus on keyboarding, desktop publishing, business office management and computer technology. Further, students will learn about office applications and presentation graphics.

Course #	Course Name	Credit
ADMS 1100	Keyboarding I	3.00
ADMS 1102	Keyboarding II	3.00
ADMS 1112	Desktop Publishing/Presentation Graphics	3.00
ADMS 1126	Business Office Management	3.00
ADMS 2124	Advanced Micro Computer	3.00
CPTR 1104	Computerized Business Applications	3.00
Total Credits:		18

Administrative Support Diploma – 34 credits

Description

The Administrative Support Diploma will provide students with the computer, bookkeeping, business communication and secretarial skills they will need to succeed as an office professional.

Employment

In Minnesota and nationally, a large number of job openings exist for experienced secretaries. Temporary or part-time work is available during peak business periods. Demand for secretaries will be stimulated by the increasing use of information and the trend of secretaries handle more administrative responsibilities such as budgeting, scheduling, and office management, which are not easily automated. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
ACCT 1100	Principles of Bookkeeping	3.00
ACCT 1000	Financial Information for Life	3.00
CPTR 1104	Computerized Business Applications	3.00
CRLT 1102	Contemporary Career Search	1.00
MKTG 1108	Customer Relations Mgmt	3.00
ADMS 1100	Keyboarding I	3.00
ADMS 1102	Keyboarding II	3.00
ADMS 1112	Desktop Publishing/Presentation Graphics	3.00
ADMS 1116	Business Communications	3.00
ADMS 1126	Business Office Management	3.00
ADMS 2124	Advanced Micro Computer	3.00
ADMS 2226	Technical Elective	3.00
Total Credits:		34

Administrative Assistant

AAS – 60 credits

Description

The Administrative Assistant degree will provide students with the computer knowledge, bookkeeping, business communication and secretarial skills they will need to succeed as an administrative assistant, executive secretary, or office assistant.

Employment

Graduates of this major may find employment in a wide variety of business, educational, and governmental offices - possibly in management positions or with supervisory responsibilities. The shortage of experienced office employees and the increase in demand anticipated by the U.S. Department of Labor make this an excellent career choice. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
ECON 2204	Markets & Resource Allocation	3.00
ENGL 1111	College Writing I	3.00
PHIL 1201	Ethics	3.00
PSYC 1105	General Psychology	3.00
SPCH 1110	Intro to Public Speaking	3.00
ACCT 1100	Principles of Bookkeeping	3.00
ACCT 1000	Financial Information for Life	3.00
ADMS 1100	Keyboarding I	3.00
ADMS 1102	Keyboarding II	3.00
ADMS 1112	Desktop Publishing/Presentation Graphics	3.00
ADMS 1116	Business Communications	3.00
ADMS 1126	Business Office Management	3.00
ADMS 2124	Advanced Micro Computer	3.00
CPTR 1104	Computerized Business Applications	3.00
CTEC 1108	E-Merging Technologies	3.00
CRLT 1102	Contemporary Career Search	1.00
MKTG 1108	Customer Relations Mgmt	3.00
SUPL 1120	Supervisory Leadership	3.00
	Technical Electives	8
Total Credits:		60

Business Programs

Business Foundations

Certificate - 16 credits

Description

NTC's Business Foundations program is designed to provide fundamental business occupational training necessary for rewarding employment in today's professional workplace. Upon completion of the certificate, you will develop effective communication skills, financial management skills and gain an understanding of business environments and opportunities. Students will learn to build and maintain good working relationships with fellow employees and develop exceptional customer service skills. All Business Foundation courses transition to NTC Business Diplomas & AAS Degrees.

Employment

In Minnesota and nationally, employers looking to fill entry-level positions need workers who have the fundamental occupational skills to meet or exceed workplace demands. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ACCT 1000	Financial Information for Life	3
MKTG 1108	Customer Relations Mgmt	3
ADMS 1116	Business Communications	3
SUPL 1104	Intro to Business	3
Technical Electives		4
Total Credits		16

Business

AAS – 60 Credits

Description

The Business AAS program is designed to meet the diverse employment & skill areas needed in the Business field. This program will prepare students for existing and emerging business careers. Students can pursue a specific business career area, enhance their general business skills foundation and diversify their skill base by adding an additional specific career certification.

Degree Requirements

Course #	Course Name	Credit
ENGL 1111	College Writing I	3
Required Courses		
MATH 1110	College Algebra	3
PHIL 1201	Ethics	3
PSYC 1105	General Psychology	3
SPCH 1110	Intro to Public Speaking	3
ACCT 1000	Financial Information for Life	3
MKTG 1108	Customer Relations Mgmt	3
ADMS 1116	Business Communications	3
SUPL 1104	Intro to Business	3
CPTR 1104	Computerized Business Applications	3

Complete two Certificates from the list below.

Accounting Certificate

ACCT 1120	Legal Environment	3
ACCT 1134	Computerized Accounting Applications	3
ACCT 2201	Accounting I: Financial Accounting	4
ACCT 2203	Accounting II: Managerial Accounting	4
CRLT 1102	Contemporary Career Search	1

Administrative Business Specialist Certificate

ADMS 1100	Keyboarding I	3
ADMS 1112	Desktop Publishing/Presentation Graphics	3
ADMS 1126	Business Office Management	3
ADMS 2124	Advanced Micro Computer	3
ADMS 2226	Advanced Administrative Office Applications	3

Computer Support Certificate

CPTR 1138	Information Systems	3
CPTR 1142	Network Essentials	3
CPTR 1148	Microcomputer Operating Systems	3

Course #	Course Name	Credit
CTEC 1106	Helpdesk Operations	3
CTEC 1108	E-Merging Technologies	3
Human Resources Certificates		
ACCT 1104	Payroll	3
ACCT 1120	Legal Environment	3
MKTG 2220	Human Resource Management	3
MKTG 2200	Prin of Management	3
SUPL 1120	Supervisory Leadership	3
Sales Marketing Certificates		
MKTG 1106	Professional Sales	3
MKTG 1116	Advertising & Promotion	3
MKTG 1112	Retailing Management	3
MKTG 2100	Principles of Marketing	3
MKTG 2214	E-Marketing	3
Management Entrepreneurship Certificate		
MKTG 2200	Prin of Management	3
MKTG 2236	Small Business Management	3
MKTG 2220	Human Resource Management	3
MKTG 2232	Marketing Management	3
BUSN 1100	Entrepreneurial Finance	3
Total Credits		60

Business and Business Transfer Pathways

AS – 60 credits

Description

This program is a university-parallel program equivalent to the first two years of a bachelor degree program. This program prepares student for majors in such areas as accounting, management, marketing, human resources, economics, and other business-related fields.

This program includes business and general education courses to provide a sound background for study and a career in business.

Course #	Course Name	Credit
Required Courses		
ENGL 1111	College Writing I	3
SPCH 1110	Public Speaking	3
MATH 1110	College Algebra	3
MATH 2200	Statistics	3
PHIL 1201	Ethics	3
ECON 2204	Markets & Resource Allocation	3
ECON 2404	Macroeconomics and the Business Cycle	3
General Education Credits (MnTC courses) – need an additional 9 credits from 3 of the following Goal areas: 6, 7, 8, 9, 10		9
ACCT 1120	Legal Environment	3
ACCT 2201	Financial Accounting/ Acct I	4
ACCT 2203	Managerial Accounting/ Acct II	4
CPTR 1104	Computerized Business Applications	3
MKTG 2100	Principles of Marketing	3
MKTG 2200	Principles of Management	3
General Electives (may be additional MNTC courses)		10
Total Credits:		60

Computer Support

Computer Support

Certificate – 18 Credits

Description

The certificate prepares students to become a Computer Support Specialist troubleshooting and resolving various computer and software issues. They may work in a help-desk environment or provide technical support in an organization's IT department. This certificate can lead into a Business diploma or AAS.

Course #	Course Name	Credit
Required Courses		
CPTR 1138	Information Systems	3
CPTR 1142	Network Essentials	3
CPTR 1148	Microcomputer Operating Systems	3
CTEC 1106	Helpdesk Operations	3
CTEC 1108	E-Merging Technologies	3
CPTR 1104	Computerized Business Applications	3
Total Credits		18

E-Merging Computer Technology

AAS – 60 credits

Description

The E-Merging Computer Technology degree offers students both theory and hands-on training in computer equipment servicing and networking. The program prepares graduates for immediate entry-level employment in any size company utilizing computer technology. Graduates adding industry certification such as A+, Network+, CCNA, etc. have an advantage. The program provides students with the foundation required to build a rewarding career in the continually expanding field of computer service and networking.

Employment

The field of computers and technology are expected to grow 6% in the next few years. Employers look for people who have strong problem-solving and analytical skills. They also look for people who can communicate well with a variety of people. Employment opportunities are available in many size companies utilizing computer technology, such as business management companies, hospitals, colleges & universities, local, state, and federal agencies and private enterprises. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ENGL 1111	College Writing I	3
MATH 1110	College Algebra	3
PSYC 1105	General Psychology	3
SPCH 1110	Intro to Public Speaking	3
ACCT 1000	Financial Information for Life	3
ADMS 1116	Business Communications	3
CPTR 1104	Computerized Business Applications	3
CPTR 1106	Microcomputer Databases	3
CRLT 1102	Contemporary Career Search	1
CPTR 1138	Information Systems	3
CPTR 1142	Network Essentials	3
CPTR 1148	Microcomputer Operating Systems	3
CTEC 1106	Helpdesk Operations	3
CTEC 1108	E-Merging Technologies	3
CTEC 1100	Security Essentials	2
MKTG 1108	Customer Relations Mgmt	3
SUPL 1120	Supervisory Leadership	3
	Technical Electives	9
	General Education Electives	3
Total Credits		60

Human Resources Programs

Human Resources

Certificate – 18 Credits

Description

The program will prepare individuals for human resource practices at the technical, operational, and management level. Students completing this program will possess the skills needed for entry level roles in the growing Human Resources field. This program will also lead to other program options.

Course #	Course Name	Credit
Required Courses		
ACCT 1104	Payroll	3
ACCT 1120	Legal Environment	3
MKTG 2220	Human Resource Management	3
MKTG 2200	Prin of Management	3
SUPL 1120	Supervisory Leadership	3
CPTR 1104	Computerized Business Applications	3
Total Credits		18

Management & Entrepreneurship

Management and Entrepreneurship

Certificate – 18 credits

Description

A dynamic marketplace and advancing technology have changed the way we do business and created a competitive marketplace. This program will help you develop the skills you need to achieve satisfying management positions in a variety of industries. The program will focus on introductory level training in management and entrepreneurial skills. You will learn how to manage a business and how to start a small business from the ground up.

Employment

There are many employment opportunities for students seeking a career in the sales, marketing, and management field. Approximately, one out of every five people work in this fast-paced and dynamic field. Students may find diverse employment opportunities in retail, wholesale, production, or service related enterprises. Graduates in this program have careers that include sales representatives, managers, business owners, food brokers, buyers, merchandisers, and customer service representatives. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
MKTG 2200	Prin of Management	3.00
MKTG 2220	Human Resource Management	3.00
MKTG 2232	Marketing Management	3.00
MKTG 2236	Small Business Management	3.00
BUSN 1100	Entrepreneurial Finance	3.00
CPTR 1104	Computerized Business Applications	3.00
Total Credits:		18

Sales, Marketing & Management

Sales and Marketing

Certificate – 18

Description

This program can help you prepare for a dynamic career in sales, marketing, merchandising, selling, retailing and service businesses. The program offers diverse training including courses in computer technology, selling strategies, marketing skills, customer service, e-marketing, and retail management concepts. Students completing this program will possess the skills needed for entry roles in these exciting fields. This certificate can also lead into other educational program options.

Employment

There are many employment opportunities for students seeking a career in the sales, marketing, and management field. Approximately, one out of every five people work in this fast-paced and dynamic field. Students may find diverse employment opportunities in retail, wholesale, production, or service related enterprises. Graduates in this program have careers that include sales representatives, managers, business owners, food brokers, buyers, merchandisers, and customer service representatives. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
MKTG 1106	Professional Sales	3.00
MKTG 1116	Advertising & Promotion	3.00
MKTG 1112	Retailing Management	3.00
MKTG 2100	Principles of Marketing	3.00
MKTG 2214	E-Marketing	3.00
CPTR 1104	Computerized Business Applications	3.00
Total Credits:		18

Sales and Marketing

Diploma – 32 credits

Description

This program prepares graduates to enter a Sales and Marketing career. Positions are available in marketing, merchandising, selling, retailing, and service businesses. This major includes courses in computer technology, selling strategies, customer service, telemarketing, and retailing and marketing concepts.

Employment

A career in Sales and Marketing offers many opportunities. The number of positions is growing and every industry needs capable sales employees. Individuals may start as a management trainee, assistant manager, customer service representative, sales associate, route salesperson, independent sales representative, or account executive. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ACCT 1000	Financial Information for Life	3
CPTR 1104	Computerized Business Applications	3
ADMS 1116	Business Communications	3
MKTG 1106	Professional Sales	3
MKTG 1108	Customer Relations Mgmt	3
MKTG 1112	Retailing Management	3
MKTG 1116	Advertising & Promotion	3
MKTG 2100	Prin of Marketing	3
MKTG 2204	Advanced Professional Selling or Technical Elective *Approved by Advisor	3
MKTG 2214	E-Marketing	3
	Technical Electives	2
Total Credits		32

Sales, Marketing and Management

AAS – 60 credits

Description

Sales, Marketing & Management prepares graduates for career advancement, self-employment or positions in customer service, retail sales and management. Other options are business-to-business sales for wholesalers, manufacturers, and service industries. Entry-level management jobs include department manager, management trainee and small business manager or owner.

Employment

There are many employment opportunities for students seeking a career in the sales, marketing, and management field. Approximately, one out of every five people work in this fast-paced and dynamic field. Students may find diverse employment opportunities in retail, wholesale, production, or service related enterprises. Graduates in this program have careers that include sales representatives, managers, business owners, food brokers, buyers, merchandisers, and customer service representatives. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
MKTG 1106	Professional Sales	3.00
MKTG 1112	Retailing Management	3.00
MKTG 1116	Advertising & Promotion	3.00
MKTG 2100	Principles of Marketing	3.00
MKTG 2214	E-Marketing	3.00
CPTR 1104	Computerized Business Applications	3.00
ACCT 1000	Financial Information for Life	3.00
ADMS 1116	Business Communications	3.00
MKTG 1108	Customer Relations Mgmt	3.00
ACCT 1100	Principles of Bookkeeping	3.00
or ACCT 1134	Computerized Accounting Applications	3.00
MKTG 2200	Prin of Management	3.00
MKTG 2220	Human Resource Management	3.00
MKTG 2232	Marketing Management	3.00
MKTG 2236	Small Business Management	3.00
	Business Technical Elective	
	*Approved by Advisor	3.00
ECON 2204	Markets & Resource Allocation	3.00
ENGL 1111	College Writing I	3.00
SPCH 1110	Intro to Public Speaking	3.00
	General Education Electives	6
Total Credits:		60

Child Care

In this section – programs in:
Child Care & Education
Young Child Education

Child Care & Education

Child Care and Education - Level I Certificate – 20 credits

Description

The importance of high quality early care education is becoming more widely recognized within the private and business sectors, resulting in an increasing demand for professional child care providers. NTC's child care and education program prepares you to provide a safe, healthy, developmentally and culturally appropriate learning environment for children from birth through age eight. You will learn to develop play-centered activities designed to help children grow cognitively, socially, emotionally, physically and creatively.

Employment

The Child Care and Education program recognizes the diversity of the field and offers students the opportunity to select an area of emphasis based on the work setting or age-level of children. Students may choose to specialize in these areas: Infant-toddler, preschool, school-age, children with special needs, family child care or nanny. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
CDEV 1100	Healthy, Developmentally Appropriate Environment	3
CDEV 1102	Parent & Professional Relations	3
CDEV 1104	Child Development and Learning	3
CDEV 1110	Field I	1
CDEV 1112	Field II	1
CDEV 1114	Society/Family Dynamics	3
CDEV 1126	Careers in Early Childhood	1
CDEV 2202	Abuse and Neglect	2
General Studies Electives		3
Total Credits		20

Child Care and Education - Level II

Certificate – 27 credits

Description

The program meets requirements for Assistant Teacher/Aide as specified by Minnesota Department of Human Services Rules 9502 and 9503. Additional work experience may be required for assistant teacher positions in licensed child care centers.

Employment

The Child Care and Education program recognizes the diversity of the field and offers students the opportunity to select an area of emphasis based on the work setting or age-level of children. Students may choose to specialize in these areas: Infant-toddler, preschool, school-age, children with special needs, family child care or nanny. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
CDEV 1100	Healthy, Developmentally Appropriate Environment	3
CDEV 1102	Parent & Professional Relations	3
CDEV 1104	Child Development and Learning	3
CDEV 1110	Field I	1
CDEV 1112	Field II	1
CDEV 1114	Society/Family Dynamics	3
CDEV 1116	Relations and Mgmt in Early Child Ed	3
CDEV 1126	Careers in Early Childhood	1
CDEV 1130	Special Needs in Early Childhood	3
CDEV 1132	Special Needs Lab	1
CDEV 2202	Abuse and Neglect	2
General Studies Electives		3
Total Credits		27

Child Care and Education

AAS – 60 credits

Description

Child care is the third largest industry in the State of Minnesota; there are more than 30,000 child care providers, more than there are elementary school teachers, or employees in legal services, business services, or health insurance. The importance of high quality early care education is becoming more widely recognized within the private and business sectors, resulting in an increasing demand for professional child care providers. This program prepares graduates to provide a safe, healthy, developmentally and culturally appropriate learning environment for children birth through age eight. Because children learn primarily through play, the program prepares students to develop hands-on, developmentally and culturally appropriate activities to assist children to grow cognitively, socially, emotionally, physically, and creatively. Students develop skills for building positive relationships and communication with children, families, and co-workers. Courses in parent and professional relations, health, safety, nutrition, child development, positive guidance, developmentally and culturally appropriate environment, special needs, abuse and neglect, family dynamics, infant-toddler, school age, and observing and assessing prepare students to work in a variety of child care settings: family, group family, center base, infant-toddler, pre-school, and school-age care, and as educational paraprofessionals providing teaching and clerical support for classroom teachers. The program meets requirements for Teacher/Assistant Teacher as specified by Minnesota Department of Human Services Rules 9502 and 9503. Additional work experience may be required for teacher positions in licensed child care centers. While this program is designed for those who wish to enter the workforce immediately, many of the courses transfer to Bemidji State University, should graduates choose to continue their education and attain a four year early childhood education degree to teach infants through third graders. Please refer to the BSU brochure for more information about the unique partnership between BSU and NTC.

Employment

Graduates may choose to specialize in these areas: infant-toddler, preschool, school-age, children with special needs, family child care, nanny or administration. Graduates meet qualifications for a para-educator in a school setting. Individuals completing the AAS program may obtain employment in one of the following areas as well: Food Program Representative and Child Care Resource and Referral Agent. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ENGL 1111	College Writing I	3
SGNL 1100	American Sign Language (ASL) I	4
PSYC 1105	General Psychology	3
SPCH 1120	Interpersonal Communications	2
CDEV 1100	Healthy, Developmentally Appropriate Environment	3
CDEV 1102	Parent & Professional Relations	3
CDEV 1104	Child Development and Learning	3
CDEV 1110	Field I	1
CDEV 1112	Field II	1
CDEV 1114	Society/Family Dynamics	3
CDEV 1116	Relations and Mgmt in Early Child Ed	3
CDEV 1126	Careers in Early Childhood	1
CDEV 1130	Special Needs in Early Childhood	3
CDEV 1132	Special Needs Lab	1

Course #	Course Name	Credit
CDEV 2202	Abuse and Neglect	2
CDEV 2206	Observing & Assessing	3
CDEV 2208	Infant/Toddler Learning Exper	4
CDEV 2216	Children with Difficult Behavior	2
CDEV 2220	Foundations of Early Childhood Educations	3
CDEV 2222	School-Age Development	2
CDEV 2224	Children's Literature and Literacy	3
SELECT EITHER CDEV2286 OR CDEV2240		
CDEV 2286	Pre-School Internship	4
or CDEV 2240	Field III - Advanced	4
General Education Electives		3
Total Credits		60

Young Child Education

Young Child Education

AS – 60 credits

Description

The Young Child Education program provides a unique opportunity for students to complete an Associate in Science Degree at NTC, and then transfer to Bemidji State University to earn a four year teaching degree in early childhood education. Virtually all NTC credits transfer to BSU, allowing graduates to quickly finish their education and seek employment teaching infants through third graders. Please refer to NTC's BSU partnership flyer for more information about the unique partnership between BSU and NTC. Graduates of the Young Child Education program may choose to enter the workforce as teachers in child care facilities or educational paraprofessionals in lieu of continuing their education. This program prepares graduates to provide a safe, healthy, developmentally and culturally appropriate learning environment for children birth through age eight and develop skills for building positive relations and communicates with children, families, and co-workers. Courses in parent and professional relations, health safety, nutrition, child development, positive guidance, developmentally and culturally appropriate environment, special needs, family dynamics, and infant-toddler prepare students to work in a variety of child care settings: family, group family, center base, infant-toddler, pre-school, and school-age care and as educational paraprofessionals providing teaching and clerical support for classroom support for classroom teachers. The program meets requirements for Teacher/Assistant Teacher as specified by Minnesota Department of Human Services Rules 9502 and 9503. Additional work experience may be required for teacher positions in licensed child care centers.

Employment

The Young Child Education program recognizes the diversity of the field and offers students the opportunity to select an area of emphasis based on the work setting or age-level of children. Students may choose to specialize in these areas: infant-toddler, preschool, school-age, children with special needs, family child care, nanny or administration. Graduates meet qualifications for a para-educator in a school setting. Individuals completing the AS program may obtain employment in one of the following areas as well: Food Program Representative and Child Care Resource and Referral Agent. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ENGL 1111	College Writing I	3
ENGL 1113	College Writing II	3
PSYC 1105	General Psychology	3
SPCH 1110	Intro to Public Speaking	3
SGNL 1100	American Sign Language (ASL) I	4
SGNL 2100	American Sign Language (ASL) II	4
CDEV 1100	Healthy, Developmentally Appropriate Environment	3
CDEV 1102	Parent & Professional Relations	3
CDEV 1104	Child Development and Learning	3
CDEV 1116	Relations and Mgmt in Early Child Ed	3
CDEV 1126	Careers in Early Childhood	1
CDEV 1130	Special Needs in Early Childhood	3

Course #	Course Name	Credit
CDEV 1132	Special Needs Lab	1
CDEV 2206	Observing & Assessing	3
CDEV 2208	Infant/Toddler Learning Exper	4
CDEV 2220	Foundations of Early Childhood Educations	3
CDEV 2224	Children's Literature and Literacy	3
	General Education Electives	10
Total Credits		60

Healthcare

In this section, programs in:

Community Health Worker

Dental Assisting

Health Science – Broad Field

Healthcare Support

Nursing

Community Health Worker

Community Health Worker

Certificate – 17 credits

Description

Community health workers act as a liaison between their own community and systems of care. Community health workers perform a broad range of health-related functions and play an important role in bridging the gap between cultures and health care systems. This program provides a blend of didactic and field-based learning that incorporates effective training environments for students interested in being community health workers. A community health worker is a health and social services paraprofessional who works on the front lines with people who need assistance and guidance in getting health care. They play an important role to build trust and assurance in bridging the gap between cultural understanding of health care systems. They help navigate clients through systems and community services, overcoming barriers, understanding options, and accessing and benefiting from health services. Community health workers may serve as advisors, case managers or referral sources. They are advocates, facilitators, motivators, culture brokers and interpreters who mentor people to help the health care providers respond to patients.

Employment

Most community health workers are employed by community-based organizations such as community health clinics, community social and human service agencies and county public health departments. Sometimes they are called by another title such as health advocate. Community health workers can make an average of \$10.50 to \$16 per hour. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
CMHW 1000	Advocacy and Outreach	3
CMHW 1100	Community, Capacity Building & Teaching	3
CMHW 1200	Communications, Competence & Legal/Ethical Implications of the CHW	3
CMHW 1300	Health Promotion Competencies	3
CMHW 1400	Community Health Worker Internship	2
Select one of the options listed		
CPTR 1105	Intro to Computers - Medical Applications	3
or SPCH 1110	Intro to Public Speaking	3
Total Credits		17

Dental Assisting

Dental Assisting

Diploma – 45 credits

Description

The Dental Assisting program provides knowledge necessary for the dental assistant to assist in performing general clinical assisting and support functions, intraoral clinical procedures, business office procedures and laboratory tasks. The curriculum includes content in general studies; biomedical, dental, and clinical sciences; clinical practice; and additional intraoral clinical functions. Certain biomedical and dental science courses offered in the curriculum are common to both Dental Assisting and Dental Hygiene majors. Graduates are eligible to write the Dental Assisting National Board Certification Exam and the Minnesota State Board of Dentistry Registration Exam.

Employment

The demand for dental care continues to grow. Dentists will need to employ more dental hygienists and dental assistants than ever before to meet the increased demand for dental care. There are more than 200,000 active dental assistants in the U.S. today. The majority of dental assistants are employed by general dentists, however career opportunities are available with dental specialists, orthodontists and oral/maxillofacial surgeons. In addition to private practices, dental assistants may seek employment with public health/government clinics, military dental services, dental schools, allied dental education programs, the retail/wholesale dental industry, insurance and consulting companies. There is a great deal of stability and employment security for individuals that are interested in becoming a dental assistant. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
COMM 1102	Applied Communications	3
HPER 1410	First Aid / CPR	1
DENT 1010	Infection Control	1
DENT 1100	Biomaterials	3
DENT 1112	Dental Anatomy	3
DENT 1114	Dental Radiology	4
DENT 1106	Biodental Science	2
DENT 1124	Clinical Assisting I	4
DENT 1122	Dental Ethics & Jurisprudence	1

Course #	Course Name	Credit
DENT 1130	Dental Prac Management	1
DENT 1126	Clinical Assisting II	4
DENT 1132	Credentialing Exam Preparation	1
DENT 1134	Clinical Affiliation	7
DENT 1136	Advanced Functions	7
DENT 1500	Dental Health	3
Total Credits:		45

Dental Assisting

AAS – 60 credits

Description

The Dental Assisting program provides knowledge necessary for the dental assistant to assist in performing general clinical assisting and support functions, intraoral clinical procedures, business office procedures and laboratory tasks. The curriculum includes content in general studies; biomedical, dental, and clinical sciences; clinical practice; and additional intraoral clinical functions. Certain biomedical and dental science courses offered in the curriculum are common to both Dental Assisting and Dental Hygiene majors. Graduates are eligible to write the Dental Assisting National Board Certification Exam and the Minnesota State Board of Dentistry Registration Exam.

Employment

The demand for dental care continues to grow. Dentists will need to employ more dental hygienists and dental assistants than ever before to meet the increased demand for dental care. There are more than 200,000 active dental assistants in the U.S. today. The majority of dental assistants are employed by general dentists, however career opportunities are available with dental specialists, orthodontists and oral/maxillofacial surgeons. In addition to private practices, dental assistants may seek employment with public health/government clinics, military dental services, dental schools, allied dental education programs, the retail/wholesale dental industry, insurance and consulting companies. There is a great deal of stability and employment security for individuals that are interested in becoming a dental assistant. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Select one from options listed		
BIOL 2252	Anatomy & Physiology I	3
BIOL 2221	Microbiology	3
Required Courses		
ENGL 1111	College Writing I	3
PSYC 1105	General Psychology	3
SPCH 1110	Intro to Public Speaking	3
HPER 1410	First Aid / CPR	1
DENT 1010	Infection Control	1
DENT 1100	Biomaterials	3
DENT 1112	Dental Anatomy	3
DENT 1114	Dental Radiology	4

Course #	Course Name	Credit
DENT 1106	Biodental Science	2
DENT 1124	Clinical Assisting I	4
DENT 1122	Dental Ethics & Jurisprudence	1
DENT 1130	Dental Prac Management	1
DENT 1126	Clinical Assisting II	4
DENT 1132	Credentialing Exam Preparation	1
DENT 1134	Clinical Affiliation	7
DENT 1136	Advanced Functions	7
DENT 1500	Dental Health	3
	General Education Electives	6
Total Credits:		60

Gerontology and Aging Care

Gerontology and Aging Care Certificate 18 credits

Description

Graduates of the gerontology certificate program have the knowledge and skills needed to provide seamless quality service to the aging population and their families. Gerontology career pathways include a wide variety of service and leadership opportunities related to diversity; coping strategies related to death, dying and bereavement; economics; housing options; health and wellness; programs and services for the elderly; public policy and advocacy; and consumer service.

Employment

NTC realizes there is an untapped market in entry-level caretakers for healthy aging and home care. It will not only improve the pride that entry-level employees have in the work they do, but will carry over into job loyalty and professionalism. A workforce that can assist in healthy aging and close the healthcare gap that currently exists, we can increase quality of care and employee retention in a field that traditionally sees high burnout and high turnover rates.

Course #	Course Name	Credit
Required Courses		
GERO 1100	Intro to Gerontology	3
GERO 1200	Biology of Aging	3
GERO 1230	Healthy Aging	3
GERO 1250	Dementia & Alzheimer's Care	3
GERO 1300	Death & Dying	3
GEROP 1305	Psychosocial Aspects of Aging	3
Total Credits		18

Health Sciences

Health Sciences Broad Field

AS – 60 credits

Description

The Health Sciences Broad Field Associate of Science program at Northwest Technical College is for those who choose to double major or consider transferring to another health and human services related program. Some programs that have common prerequisites expectation include, nursing, social work, nutrition, corrections, health education, and exercise science. This program positions a learned to being their education at Northwest Technical College, transfer to a baccalaureate program and achieve a career in a high demand health and human service areas.

The basic sciences and health occupations curriculum is a solid base for many health and human services careers. Students completing the Health Sciences Broad Field Associate of Science degree will work closely with a knowledgeable adviser to outline an education pathway to their choice of Minnesota State Universities.

Employment

Graduates of this flexible program have the opportunity to be employed in a broad variety of fields, depending on their occupational goals and courses of study. See www.iseek.org for additional employment information in all areas.

Course #	Course Name	Credit
Goal Area 1 – Communication		
ENGL 1111	College Writing I	3
SPCH 1110	Intro to Public Speaking	3
Goal Area 3 – Natural Sciences		
BIOL 1111	General Biology	4
CHEM 1100	Intro to Chemistry	4
Goal Area 4 – Math Logic		
MATH 1110	College Algebra	3
MATH 2200	Statistics	3
Goal Area 5 – History Social Sciences		
PSYC 1105	General Psychology	3
PSYC 2201	Developmental Psychology	3

Course #	Course Name	Credit
SOCI 1110	Intro to Sociology	3
OR PSYC 2250	Social Psychology	3
Goal Area 6 – Humanities – Fine Arts		
PHIL 1201	Ethics	3
Required Courses		
BIOL 2130	Principles of Nutrition	3
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Physiology I	3
BIOL 2254	Anatomy & Physiology II	3
BIOL 2256	Advanced Physiology	2
HLTH 1000	Intro to Health Careers	2

Select a minimum of 12 elective credits with the help of an advisor that are most suited for the students intended health sciences baccalaureate major will be recommended. Some options that students at NTC have considered are listed below. Additional elective options may be selected with advisor approval.

Technical Electives

ADMM 1125	US Healthcare Systems	3
CDEV 1102	Parent and Professional Relations	3
CDEV 1104	Child Development	3
CDEV 1114	Society and Family Dynamics	3
CDEV 1126	Careers in Early Childhood	1
CDEV 2202	Abuse and Neglect	2
CMHW 1000	Advocacy/Outreach	3

Course #	Course Name	Credit
CMHW 1100	<u>Community, Capital Building, & Teaching</u>	3
CMHW 1200	<u>Communication, Competence and Legal/Ethical Implications of the CHW</u>	3
CMHW 1300	<u>Health Promotion Competencies</u>	3
COMM 1102	<u>Applied Communication</u>	3
HLTH 1106	<u>Medical Terminology</u>	2
HLTH 1110	<u>Nursing Assistant</u>	3
OBRA 1100	<u>Nursing Assistant/Home Health Aide</u>	4
HLTH 2002	<u>Pharmacology</u>	2
HLTH 2208	<u>Pathophysiology</u>	3
HPER 1410	<u>First Aid / CPR</u>	1
HPER 2200	<u>CPR Healthcare Provider</u>	1
SSCI 1104	<u>Human Relations</u>	3
GERO 1100	<u>Intro to Gerontology</u>	3
GERO 1200	<u>Biology of Aging</u>	3
GERO 1230	<u>Healthy Aging</u>	3
GERO 1250	<u>Dementia</u>	3
GERO 1300	<u>Death and Dying</u>	3
GERO 1305	<u>Psychosocial Aspects of Aging</u>	3
<u>General Electives</u>		
ANTH1110*	<u>Cultural Anthropology</u>	3
BIOL 1120*	<u>Human Biology</u>	4
ENGL 1112*	<u>Composition II</u>	3

Course #	Course Name	Credit
MATH 1930*	<u>Intro to Math Sciences</u>	3
PHIL 2210*	<u>Bioethical Issues</u>	3
PSYC 2220*	<u>Abnormal Psychology</u>	3
PSYC 2250*	<u>Social Psychology</u>	3
SGNL 1100*	<u>American Sign Language I</u>	4
SGNL 2100*	<u>American Sign Language II</u>	4
SOCI 1110*	<u>Intro to Sociology</u>	3
Total Credits:		60

*denotes MnTC course

Healthcare Support

Healthcare Administrative Support

Diploma – 39 credits

Description

Medical secretaries are highly trained office specialists who are responsible for the coordination of the day-to-day medical office functions of patient appointment scheduling, telephone communications, medical record maintenance, medical transcription, and patient billing processes. Successful medical secretaries have excellent communication skills and exhibit a high degree of professionalism in their work. Emphasis areas available in the medical secretary major include medical insurance/coding and medical transcription.

Employment

Graduates of the medical secretary, medical administrative secretary and emphasis area programs have employment opportunities in a variety of health care settings including, but not limited to, hospitals, clinics, insurance companies, government agencies, public health, home health agencies, long-term care facilities, and dental offices. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ADMM 1120	Medical Office Procedures	3
ADMM 1125	US Healthcare Systems	3
ADMM 1140	Medical Billing/Insurance	3
ADMM 1151	AAPC Medical Coding I	3
ADMM 2200	Medical Language Applications	3
ADMM 1175	AAPC Medical Coding II	3
ADMM 2200	Healthcare Leadership	3
ADMS 1100	Keyboarding I	3
ADMS 1116	Business Communications	3
MKTG 1108	Customer Relations Mgmt	3
CRLT 1102	Contemporary Career Search	1
BIOL 1004	Intro to Anatomy & Physiology	3
HLTH 1000	Intro to Health Careers	2
CPTR 1105	Intro to Computers - Medical Applications	3
Total Credits		39

Healthcare Administrative Leadership

(Previously Healthcare Administrative Specialist)

AAS – 60 credits

Description

Medical secretaries are highly trained office specialists who are responsible for the coordination of the day-to-day medical office functions of patient appointment scheduling, telephone communications, medical record maintenance, medical transcription, and patient billing processes. Successful medical secretaries have excellent communication skills and exhibit a high degree of professionalism in their work.

Employment

Graduates of the medical secretary, medical administrative secretary and emphasis area programs enjoy a wide range of employment opportunities in a variety of healthcare settings including hospitals, clinics, insurance companies, government agencies, public health, home health agencies, long-term care facilities and dental offices. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ADMM 1120	Medical Office Procedures	3
ADMM 1125	US Healthcare Systems	3
ADMM 1140	Medical Billing/Insurance	3
ADMM 1151	AAPC Medical Coding I	3
ADMM 2200	Medical Language Applications	3
ADMM 1175	AAPC Medical Coding II	3
ADMM 2285	Internship	2
ADMM 2270	Healthcare Leadership	3
ADMS 1100	Keyboarding I	3
ADMS 1116	Business Communications	3
CPTR 1105	Intro to Computers - Medical Applications	3
CRLT 1102	Contemporary Career Search	1
BIOL 1004	Intro to Anatomy & Physiology	3
ENGL 1111	College Writing I	3
HLTH 1000	Intro to Health Careers	2
HPER 1410	First Aid/CPR	1
PHIL 2210	Bioethical Issues in Contemporary Society	3
MKTG 1108	Customer Relations Management	3

Course #	Course Name	Credit
MKTG 2200	<u>Principals of Management</u>	3
MKTG 2220	<u>Human Resource Management</u>	3
SUPL 1104	<u>Intro to Business</u>	3
	General Business Electives	3
Total Credits		60

Medical Coding

Certificate – 30 credits

Description

This 30 credit certificate prepares graduates for entry-level medical coding positions or to advance their studies with a diploma or an Associate of Applied Science (AAS) degree in medical coding. The NTC Medical Coding programs use the American Academy of Professional Coders (AAPC) curriculum to provide training to prepare the student to take the AAPC Certified Professional Coder (CPC) exam using nationally recognized coding systems to classify procedures and diagnoses related to medical treatment. Medical coders are needed for patient account management, medical billing and insurance claims processing.

Employment

With your medical coding education, you will be prepared to perform medical coding duties in a variety of healthcare settings including hospitals, clinics, insurance companies, government agencies, public health, home health agencies, long-term care facilities and dental offices. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
ADMM 1120	Medical Office Procedures	3
ADMM 1140	Medical Billing/Insurance	3
ADMM 1151	AAPC Medical Coding I	3
ADMM 2200	Medical Language Applications	3
ADMM 2245	Inpatient Billing	3
ADMM 1175	AAPC Medical Coding II	3
CPTR 1105	Intro to Computers - Medical Applications	3
CRLT 1102	Contemporary Career Search	1
BIOL 1004	Intro to Anatomy & Physiology	3
HLTH 1106	Medical Terminology	2
HLTH 2208	Pathophysiology	3
Total Credits		30

Medical Coding

Diploma - 40 credits

Description

This 40-credit diploma prepares graduates for a career in medical coding or to advance their studies with an Associate of Applied Science (AAS) degree in medical coding. The NTC Medical Coding programs use the American Academy of Professional Coders (AAPC) curriculum to provide training to prepare the student to take the AAPC Certified Professional Coder (CPC) exam using nationally recognized coding systems to classify procedures and diagnoses related to medical treatment. The diploma program includes coursework in anatomy and physiology, pharmacology, U.S. health care systems and medical billing and insurance. Medical coders are needed for patient account management, medical billing and insurance claims processing.

Employment

With your medical coding education, you will be prepared to perform medical coding duties in a variety of healthcare settings including hospitals, clinics, insurance companies, government agencies, public health, home health agencies, long-term care facilities and dental offices. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Degree Requirements

Course #	Course Name	Credit
Required Courses		
ADMM 1120	Medical Office Procedures	3
ADMM 1125	US Healthcare Systems	3
ADMM 1140	Medical Billing/Insurance	3
ADMM 1151	AAPC Medical Coding I	3
ADMM 1175	AAPC Medical Coding II	3
ADMM 2280	Advanced Medical Coding	3
ADMM 2200	Medical Language Applications	3
ADMM 2245	Inpatient Billing	3
CPTR 1105	Intro to Computers - Medical Applications	3
CRLT 1102	Contemporary Career Search	1
BIOL 1104	Intro to Anatomy & Physiology	3
HLTH 1000	Intro to Health Careers	2
HLTH 1106	Medical Terminology	2
HLTH 2002	Pharmacology	2
HLTH 2208	Pathophysiology	3
Total Credits		40

Medical Coding

AAS - 60 credits

Description

This 60-credit Associate of Applied Science (AAS) degree prepares graduates for a career in medical coding with comprehensive training. The NTC Medical Coding programs use the American Academy of Professional Coders (AAPC) curriculum to provide training to prepare the student to take the AAPC Certified Professional Coder (CPC) exam using nationally recognized coding systems to classify procedures and diagnoses related to medical treatment. The AAS program includes coursework in anatomy and physiology, pharmacology, U.S. health care systems and medical billing and insurance, as well as college-level courses in writing, bioethical issues in contemporary society, general psychology, intro to public speaking, business communications and customer relations management. Medical coders are needed for patient account management, medical billing and insurance claims processing.

Employment

With your medical coding education, you will be prepared to perform medical coding duties in a variety of healthcare settings including hospitals, clinics, insurance companies, government agencies, public health, home health agencies, long-term care facilities and dental offices. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#)

Degree Requirements

Course #	Course Name	Credit
ADMM 1120	Medical Office Procedures	3
ADMM 1125	US Healthcare Systems	3
ADMM 1140	Medical Billing/Insurance	3
ADMM 1151	AAPC Medical Coding I	3
ADMM 1175	AAPC Medical Coding II	3
ADMM 2280	Advanced Medical Coding	3
ADMM 2200	Medical Language Applications	3
ADMM 2245	Inpatient Billing	3
ADMM 2270	Healthcare Leadership	2
ADMS 1116	Business Communications	3
CPTR 1105	Intro to Computers - Medical Applications	3
CRLT 1102	Contemporary Career Search	1
BIOL 1104	Intro to Anatomy & Physiology	3
ENGL 1111	College Writing I	3
HLTH 1000	Intro to Health Careers	2

Course #	Course Name	Credit
HLTH 1106	<u>Medical Terminology</u>	2
HLTH 2002	<u>Pharmacology</u>	2
HLTH 2208	<u>Pathophysiology</u>	3
MKTG 1108	<u>Customer Relations Mgmt</u>	3
PHIL 2210	<u>Bioethical Issues in Contemporary Society</u>	3
PSYC 1105	<u>General Psychology</u>	3
SPCH 1110	<u>Intro to Public Speaking</u>	3
Total Credits		60

Nursing

Practical Nursing

Diploma – 38 credits

Description

The Practical Nursing program prepares the student to practice within the scope of practical nursing under the supervision of a registered nurse. The student is taught to use the nursing process at the practical nurse level in the maintenance of health and prevention of illness, the observation and nursing care of persons experiencing changes in health status, and how to administer prescribed medication and treatments.

The Practical Nursing student will receive supervised learning experience in caring for individuals in a variety of health care environments, such as long term care facilities and physician clinic settings. To obtain the diploma in practical nursing the student must successfully complete all required courses.

After successful completion of the program, graduates are eligible to apply to take the National Council Licensure Examination for the Practical Nurse (NCLEX-PN). The successful LPN possesses excellent communication skills and abilities essential to safe and effective nursing practice as part of a health care team. The program prepares interested students for future continued education in the nursing field.

Employment

Employment opportunities have experienced a major expansion in recent years. Graduates are currently employed in acute-care hospitals, state hospitals, long-term care facilities including nursing homes and rehabilitation hospitals, clinics and physicians' offices, group homes and child care centers, health care and public health agencies, armed services, school nursing, industry and private homes. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Must be taken prior to PNSG prefixed courses		
HLTH 1110	Nursing Assistant	3
OBRA 1100	Nursing Assistant/Home Health Aide	4
HPER 2200	CPR Healthcare Provider	1
Required Courses		
BIOL 2252	Anatomy & Physiology I	3
BIOL 2254	Anatomy & Physiology II	3
ENGL 1111	College Writing I	3
PSYC 2201	Developmental Psychology	3
PNSG 1100	Foundations of Practical Nursing	5

PNSG 1110	Care of Clients Across the Lifespan I	4
PNSG 1120	Pharmacology	2
PNSG 1125	Clinical I	2
PNSG 1150	Care of Clients Across the Lifespan II	4
PNSG 1160	Nursing Care of Women and Children	2
PNSG 1180	Psychosocial Nursing	2
PNSG 1185	Transition to Practice/PN Clinical II	5
Total Credits:		38

AD Nursing

Description

The AS in Nursing (ASN) program is a mobility program which allows the Licensed Practical Nurse (LPN) to advance their knowledge and skill for licensure and practice as a registered nurse (RN). This program is approved by the Minnesota State system and Minnesota Board of Nursing. The program offers full-time and may offer limited part-time options.

Generic Track (AS) 64 Credits

Must be taken prior to ADNG prefixed courses

Course #	Course Name	Credits
HLTH 1110	Nursing Assistant	3
HPER 2200	CPR Healthcare Provider	1

Required Program Courses

ADNG 1000	Foundations of Nursing	2
ADNG 1050	Foundation – Nursing Skills	4
ADNG 1100	Pharmacology	2
ADNG 1150	Nursing I	4
ADNG 1200	Clinical I	2
ADNG 2050	Advanced Skills	2
ADNG 2100	Clinical II	4
ADNG 2150	Nursing II	4
ADNG 2200	Clinical III	4
ADNG 2250	Leadership	2
ADNG 2350	Maternal-Newborn Nursing	2
ADNG 2400	Psychosocial Nursing	2

Required Courses

BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Physiology I	3
BIOL 2254	Anatomy & Physiology II	3
BIOL 2256	Advanced Physiology	2
CHEM 1100	Intro to Chemistry	4
ENGL 1111	College Writing I	3
PSYC 2201	Developmental Psychology	3

Select a Mathematics course

MATH 1110	College Algebra	3
or MATH 1930	Introduction to Mathematical Sciences	3

Select a Philosophy course

PHIL 1201	Ethics	3
or PHIL 2210	Bioethical Issues in Contemporary Society	3
	General Education Electives	3

Total Credits: 64

AD Nursing

LPN Step-in Track (AS) 64 credits

Course #	Course Name	Credits
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Physiology I	3
BIOL 2254	Anatomy & Physiology II	3
CHEM 1100	Intro to Chemistry	4
ENGL 1111	College Writing I	3
PSYC 2201	Developmental Psychology	3
SELECT ONE FROM OPTIONS LISTED		
MATH 1110	College Algebra	3
MATH 1930	Introduction to Mathematical Sciences	3
Required Program Courses		
ADNG 1150	Nursing I	4
ADNG 1300	Transition to Professional	4
ADNG 2050	Advanced Skills	2
ADNG 2100	Clinical II	4
ADNG 2150	Nursing II	4
ADNG 2200	Clinical III	4
ADNG 2250	Leadership	2
ADNG 2300	Advanced Standing	6
ADNG 2350	Maternal-Newborn Nursing	2
ADNG 2400	Psychosocial Nursing	2
Required Courses		
BIOL 2256	Advanced Physiology	2
PHIL 1201	Ethics	3
or PHIL 2210	Bioethical Issues in Contemporary Society	3
	General Education Electives	3

Total Credits: 64

Trades and Technology

In this section – programs in:

Trades

- Commercial Refrigeration
- Electrical Construction
- Residential Plumbing/HVAC

Technology

- Production Technology
- Welding Technology
- Engineering Technology

Trades

Commercial Refrigeration

Diploma – 60 Credits

Description

Students pursuing their degree in Commercial Refrigeration/HVAC at NTC have the opportunity to work with state-of-the-art equipment on campus and in the field.

The 60-credit diploma combines courses from the college's current Plumbing/HVAC and Electrical Construction & Maintenance programs with a 15-credit block of new Commercial Refrigeration courses, along with general education requirements. It will provide training and coursework that directly correlates to business and industry requests. Sixty percent of the program's instruction will be in classrooms with forty percent occurring in hands-on training and field environments.

Students will take courses in electrical theory, advanced electronics and motor controls along with specialized coursework exploring commercial refrigeration systems and equipment.

Degree Requirements

Course #	Course Name	Credit
Required Courses		
BEST 1100	Basic Education & Skills Training	2
MATH 1100	Technical Math	3
CONE 1102	Intro to Electrical Circuit Theory	4
CONE 2216	Motor Control	3
CONE 2226	Motor Control Lab	4
CONE 2300	Programmable Logic Controllers	3
CREF 1600	Commercial Refrigeration Introduction Internship	1
CREF 1700	Introduction to Commercial Refrigeration Systems	3
CREF 1710	Introduction to Commercial Refrigeration Electronic Controls Systems	4
CREF 2100	Commercial Refrigeration Racks & Chillers Theory Design & Install	4
CREF 2600	Commercial Refrigeration Capstone Internship	3
PLHE 2032	Air Conditioning, Heat Pump, Refrigeration and Recovery	3
PLHE 2076	Forced Air Systems Theory	4
PLHE 2095	HVAC Design and Installation	3
PLHE 2135	HVAC Code Interpretation	2

Course #	Course Name	Credit
PLHE 2140	Optimizing HVAC Control Systems	4
PLHE 2146	HVAC Design II	4
PLHE 2151	Hydronic Design and Controls	3
PLHE 2160	Air Conditioning, Refrigeration and Heat Pump Controls	3
Total Credits:		60

Electrical Construction

Residential Wiring Certificate – 20 Credits

Description

The Residential Wiring program prepares students for employment for entry level jobs in residential wiring. Topics include National Electrical Code regulations, basic electricity fundamentals and residential wiring practices.

Course #	Course Name	Credit
Required Courses		
BLDG 1102	Construction Safety	1
CONE 1102	Intro to Electrical Circuit Theory	4
CONE 1104	Intro to NEC	2
CONE 1117	Residential Wiring Lab	5
CONE 1107	Intro to Residential Wiring	3
ENER 1500	PV System Design & Install	2
MATH 1100	Technical Mathematics	3

Electrical Instrumentation

Certificate – 30 Credits

Description

This program prepares the student for employment in automation and process controls industries. This program provides individuals currently employed in industry an opportunity to update their technical skills with training in a hands-on environment.

Course #	Course Name	Credit
Required Courses		
CMAE 1506	Introduction to Computers	2
CONE 1102	Intro to Electrical Circuit Theory	4
CONE 1108	Electrical Circuit Theory	5
CONE 2226	Motor Control Lab	4
CONE 2210	Electronic Motor Control	2
CONE 2216	Motor Control	3
CONE 2300	Programmable Logic Controllers	3
CONE 2100	Instrumental Process Control	2
CONE 2400	Adv Programmable Logic Control	2
MATH 1100	Technical Mathematics	3
Total Credits		30

Electrical Construction & Maintenance

Diploma – 74 Credits

Description

This program prepares students for work installing and maintaining systems in residential, commercial, and industrial applications. Courses include a mix of theory and hands-on lab applications. The program includes courses in wiring practices, electrical theory, National Electrical Code application, programmable controllers, and troubleshooting.

Employment

As a graduate of our electrical construction/maintenance program, you will enter the workforce as a construction electrician apprentice and you will be equipped to work toward a journeyman or master electrician's license. The electrical construction/maintenance diploma opens a wide range of career opportunities for you depending on your interests and skill levels; related field advancement options include sales positions, maintenance jobs, low voltage alarm services, data cabling and management positions. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
MATH 1100	Technical Mathematics	3
CONE 1102	Intro to Electrical Circuit Theory	4
CONE 1104	Intro to NEC	2
CONE 1106	Wiring I	4
CONE 1108	Electrical Circuit Theory	4
CONE 1114	National Electrical Code I	2
CONE 1115	Electrical Blueprint/Estimating	2
CONE 1119	Wiring II	5
CONE 1300	Electrical Safety	2
CONE 2000	Industry Career Skills	1
CONE 2100	Instrumental Process Control	2
CONE 2106	Wiring III	5

Course #	Course Name	Credit
CONE 2107	Wiring IV	5
CONE 2114	National Electrical Code II	2
CONE 2200	Building Automation	3
CONE 2210	Electronic Motor Control	2
CONE 2216	Motor Control	3
CONE 2226	Motor Control Lab	4
CONE 2242	Alternate Energy Methods	2
CONE 2248	Code Applications	2
CONE 2300	Programmable Logic Controllers	3
CONE 2400	Adv Programmable Logic Control	2
CONE 2600	Grounding and Bonding	2
CONE 2800	Capstone	3
	General Education Electives	4
Total Credits		74

Electrical Construction and Maintenance

AAS - 82 Credits

Description

This program prepares students for work installing and maintaining systems in residential, commercial, and industrial applications. Courses include a mix of theory and hands-on lab applications. The program includes courses in wiring practices, electrical theory, National Electrical Code application, programmable controllers, and troubleshooting. Minnesota Transfer Credits earned through the Associate of Applied Science (AAS) degree at NTC will transfer for graduates wishing to further their education.

Course #	Course Name	Credit
Required Courses		
CONE 1102	Intro to Electrical Circuit Theory	4
CONE 1104	Intro to NEC	2
CONE 1106	Wiring I	4
CONE 1108	Electrical Circuit Theory	4
CONE 1114	National Electrical Code I	2
CONE 1115	Electrical Blueprint/Estimating	2
CONE 1119	Wiring II	6
CONE 1300	Electrical Safety	2
CONE 2000	Industry Career Skills	1
CONE 2100	Instrumental Process Control	2
CONE 2106	Wiring III	5
CONE 2107	Wiring IV	5
CONE 2114	National Electrical Code II	2
CONE 2200	Building Automation	3

Course #	Course Name	Credit
CONE 2210	Electronic Motor Control	2
CONE 2216	Motor Control	3
CONE 2226	Motor Control Lab	4
CONE 2242	Alternative Energy Methods	2
CONE 2248	Code Applications	2
CONE 2300	Programmable Logic Controllers	3
CONE 2400	Adv Programmable Logic Control	2
CONE 2600	Grounding and Bonding	2
CONE 2800	Capstone	3
MATH 1930	Intro to Mathematical Sciences	3
	General Education Electives	12
Total Credits		82

Plumbing Technology

Certificate – 16 Credits

Description

Upon successful completion of this certificate program the student will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair or construction plumbing. Reading of blueprints, layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

Course #	Course Name	Credit
Required Courses		
PLHE 1055	Plumbing Code Interpretation	3
PLHE 1085	Piping System Fabrication I	3
PLHE 1091	Plumbing Design and Installation I	3
PLHE 1145	Piping Systems Fabrication II	3
PLHE 1147	Plumbing Design and Installation II	3
PLHE 2800	Boilers License Prep	1
Total Credits		16

Residential Plumbing/HVAC

Diploma - 60 credits

Description

The Residential Plumbing/HVAC Technology program prepares the student to begin their career in the plumbing and heating professions. Coursework provides the student with a technical understanding and skills development. Coursework integrates theory and practical experience. The successful graduate is eligible for documented hours towards state apprenticeship requirements and employment in an advanced apprenticeship level in a variety of businesses found in rural and metropolitan areas.

Employment

With a certification in construction technology and a diploma in plumbing/HVAC, there are a variety of career opportunities for graduates of NTC, including working for commercial or residential plumbing/HVAC contractors. Find out more about salary, job outlook and career opportunities for this program at [ISEEK - Minnesota's career, education and job resource](#).

Course #	Course Name	Credit
Required Courses		
MATH 1100	Technical Math	3
BEST 1100	Basic Education & Skills Training - HVAC	2
PLHE 1000	Introduction to Plumbing/HVAC	1
PLHE 1015	Plumbing Technical Drawing	3
PLHE 1055	Plumbing Code Interpretation	3
PLHE 1085	Piping System Fabrication I	3
PLHE 1091	Plumbing Design and Installation I	3
PLHE 1105	Plumbing Repair and Service Technology	3
PLHE 1145	Piping Systems Fabrication II	3
PLHE 1147	Plumbing Design and Installation II	3
PLHE 1193	Residential Plumbing Advanced Design	2
PLHE 2032	Air Conditioning, Heat Pump, Refrigeration and Recovery	3
PLHE 2076	Forced Air Systems Theory	4

Course #	Course Name	Credit
PLHE 2095	HVAC Design and Installation	3
PLHE 2135	HVAC Code Interpretation	2
PLHE 2140	Optimizing HVAC Control Systems	4
PLHE 2146	HVAC Design II	4
PLHE 2151	Hydronic Design and Controls	3
PLHE 2160	Air Conditioning, Refrigeration and Heat Pump Controls	3
PLHE 2165	Thermal Solar Design Technology	3
PLHE 2195	HVAC Advanced Design	2
Total Credits		60

Technology

Production Technologies Certificate – 16 credits

Description

The Production Technologies certificate will provide students with the training, education, and skills to build a base knowledge of manufacturing processes and plant operations, generally for entry-level positions. Graduates can use the knowledge gained in this certificate to build upon a manufacturing career path leading to higher-level careers like Automation, Machining, and Welding. Students will receive training in industry practices for safety, manufacturing processes, maintenance, and quality control including lean principles. Interpreting mechanical drawings and applying technical mathematics will be included along with workplace computer skills and career success skills.

Employment

This certificate provides students with the training, education, and skills to build a base knowledge of manufacturing processes and plant operations, generally for entry-level positions. Graduates can use their new knowledge begin pursuing a path to such high-level manufacturing careers as industrial maintenance and mechanics, machine tool, manufacturing technical specialist and engineering technician.

Course #	Course Name	Credit
Required Courses		
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacturing Processes and Production	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE1528	Career Success Skills	1
MATH 1100	Technical Math	3 or
MATH 1930	Intro to Mathematical Science	3
Total Credits		16

Welding Technologies

Certificate - 30 credits

Description

The Welding Technology Certificate includes seven production technologies courses that provide foundational manufacturing skills and six courses with advanced welding skill topics including: print reading and interpreting symbols, Oxyfuel welding, SMAW (Shielded Metal Arc Welding), GMAW (Gas Metal Arc Welding), FFAW (Flux Cored Arc Welding), GTAW (Gas Tungsten Arc Welding), and metallurgy. Hands-on experience is gained through on-site labs. This certificate will prepare students for entry-level positions and provide a foundation for additional education on a career advancement pathway.

Employment

Graduates can expect to find full-time employment in production work, manufacturing, repair and maintenance and construction. Possible job titles include welder, MIG welder, sub arc operator and manufacturing welding technician. The employment outlook for graduates of the Welding Technology certificate is excellent. Nationally, demand is estimated at 30,000 welding professionals per year, including almost 4,000 in Minnesota, just to address the projected new and replacement worker needs through 2019.

In Minnesota, welders can expect to earn an average wage of around \$19 per hour, even higher in some cases, depending on position and level of experience.

Course #	Course Name	Credit
Required Courses		
CMAE 1502	Technical Math	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacturing Processes and Production	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1560	Interpreting Symbols	2
CMAE 1562	Oxyfuel Welding and Cutting Process	3
CMAE 1564	Shielded Metal Arc Welding	3
CMAE 1566	Gas Metal Arc Welding / Flux Cored Arc Welding	3
CMAE 1568	Gas Tungsten Arc Welding	3
CMAE 1570	Metallurgy and Mechanical Properties of Materials	1

Engineering Technology

AAS – 60 credits

Course #	Course Name	Credit
Required Courses		
CMAE 1502	Technical Math	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacturing Processes and Production	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1550	DC Power	3
CMAE 1552	AC Circuits	3
CMAE 1554	Digital Electronics	3
CMAE 1556	Analog Circuits	3
CMAE 1558	Motor Circuits	3
CMAE, CONE and METC Electives		15
General Education Electives*		15

***General education electives must be from a minimum of 4 different categories. Work with your advisor to select general education electives.**

Course Descriptions 2020-2021

ACCT 1000 Financial Information for Life (3 credits) This course is an introduction to the use and interpretation of financial information needed to be a functioning member of society. Topics include business and non-business financial statements, compound interest related to loans and investment opportunities, banking transactions, personal financial statements, and the basic impact of Federal taxes on personal financial decisions.

Prerequisite(s): None

ACCT 1100 Principles of Bookkeeping (3 credits) This course covers the basic accounting cycle for service and merchandising businesses. Topics include the analyses of business transactions, recording transactions in a variety of journals, payroll procedures and the preparation of financial reports.

Prerequisite(s): None

ACCT 1104 Payroll (3 credits) This course covers the various tax 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 governmental payroll reports.

Prerequisite(s): None

ACCT 1108 Business Math/Calculators (3 credits) This course covers how to make commonly occurring business-related calculations, how to apply these calculations to accounting and other business functions, while using the computer numeric keypad.

Prerequisite(s): MATH0081, or appropriate assessment scores

ACCT 1120 Legal Environment (3 credits) This course is an introduction to the principles of law as they apply to citizens and businesses. Topics include the court system, legal system, contract, negotiable instruments, agency and the employer/employee relationship.

Prerequisite(s): None

ACCT 1124 Spreadsheet Concepts (3 credits) This course covers the use of a computerized spreadsheet system for accounting applications. Topics include document creation, storage and retrieval, editing, printing, creating charts, database applications, and file distribution.

Prerequisite(s): CPTR1104

ACCT 1134 Computerized Accounting Applications (3 credits) This course is an introduction to computerized accounting applications and software used in the business environment. Topics may include general ledger accounting, payroll procedures, accounts receivable, accounts payable, inventory and depreciation.

Prerequisite(s): ACCT1100 or ACCT2201 or instructor permission

ACCT 2200 Income Tax (3 credits) This course provides an explanation and interpretation of the Internal Revenue Code as applied to income tax returns. Topics may include filing requirements, filing status, gross income inclusions and exclusions, gains and losses, itemized deductions, and deductions for adjusted gross income, business income and expenses, business tax credits, and payment of estimated taxes.

Prerequisite(s): None

ACCT 2201 Accounting I: Financial Accounting (4 credits) This course is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include the accounting cycle, accounting for a merchandising business, accounting system design, inventory and depreciation methods, calculating payroll.

Prerequisite(s): None

ACCT 2203 Accounting II: Managerial Accounting (4 credits) This course covers the accounting principles and concepts applicable to various capital structures. Additional topics may be covered.

Prerequisite(s): ACCT2201

ACCT 2204 Intermediate Accounting I (4 credits) This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on accounting by various boards, associations, and government agencies. Topics include the purpose of financial reporting and the significance of the FASB's conceptual framework, preparation of financial statements, adjusting and closing entries, classification of balance sheet items, and various revenue recognition methods. Other miscellaneous topics may be included.

Prerequisite(s): ACCT2203

ACCT 2218 Fund/Nonprofit Accounting (3 credits) This course is concerned with the fundamentals involved in fund/nonprofit accounting. It prepares the student to apply the basic governmental accounting principles and to prepare financial statements for fund/nonprofit organizations.

Prerequisite(s): ACCT2201

ACCT 2240 Accounting Internship (3 credits) This course provides students with actual work experiences in accounting careers. A competency-based internship plan is developed for each student. Prerequisite: Advisor approval.

ADMM 1120 Medical Office Procedures (3 credits) This course covers medical office tasks performed by the medical secretary/assistant. Medical topics covered include health care careers, legal and ethical responsibilities, medical appointments, telephone techniques, medical records management, medical office management and meeting and travel arrangements.

Prerequisite(s): None

ADMM 1125 US Healthcare Systems (3 credits) This course is a study of the historical development of the health care delivery system. The student is given an opportunity to learn about the role of the health information professional and how this role is integrated into the health care delivery system.

Prerequisite(s): None

ADMM 1140 Medical Billing/Insurance (3 credits) Medical insurance plays an important role in the financial well-being of every healthcare business. This course is designed to emphasize the revenue cycle - ten steps that clearly identify all the components needed to successfully manage the medical insurance claims process. The cycle shows how administrative medical professionals "follow the money". This course covers both outpatient physician and inpatient/outpatient hospital situations.

Prerequisite(s): None

ADMM 1145 CPT & HCPCS (3 credits) This course is an introduction to medical coding and emphasizes coding in a medical office and other outpatient care facilities. Course topics include Current Procedural Terminology (CPT), Healthcare Common Procedure Coding System (HCPCS) Level II and III procedural coding, an introduction to International Classification of Diseases (ICD)-10 coding, and legal and ethical issues related to physician and outpatient coding practices.

Prerequisite(s): ADMM2200 (Medical Language Applications)

ADMM 1151 AAPC Medical Coding I (3 credits) This course teaches the fundamentals of medical coding including both diagnosis coding utilizing International Classification of Diseases, Clinical Modification, 10th revision (ICD-10-CM) and procedural coding utilizing Current Procedural Terminology (CPT). A review of medical terminology and anatomy is also presented. Course content is based on American Academy of Professional Coders (AAPC)-approved curriculum and prepares students to take the Certified Professional Coder (CPC) exam.

Prerequisite(s): None

ADMM 1170 Medical Transcription (3 credits) This course is an introduction to transcription of dictated medical reports used in a variety of medical facilities. Emphasis is placed on proper formatting, building transcription proficiency, and application of medical transcription style as defined by the American Association of Medical Transcriptionists.

Prerequisite(s): BIOL1004, ADMM2200 (Medical Language Applications)

ADMM 1175 AAPC Medical Coding II (3 credits) This course teaches the fundamentals of medical coding including both diagnosis coding utilizing International Classification of Diseases, Clinical Modification, 10th revision (ICD-10-CM) and procedural coding utilizing Current Procedural Terminology (CPT) and focuses on the coding of Digestive System, Urinary System and Male Genital System, Female Reproductive System and Maternity Care & Delivery, Endocrine System and Nervous System, Special Senses (Ocular and Auditory), Anesthesia, Radiology, Pathology and Laboratory, Evaluation and Management, Medicine sections. A review of medical terminology and anatomy is also presented. Course content is based on American Academy of Professional Coders (AAPC)-approved curriculum and prepares students to take the Certified Professional Coder (CPC) exam.

Prerequisite(s): ADMM1150

Co-requisite(s): None

ADMM 2005 Advanced CPT & HCPCS (3 credits) This course provides in-depth study of every different section of the Current Procedural Terminology (CPT) code book, including Healthcare Common Procedure Coding System (HCPCS) coding. An emphasis is placed on accuracy. Learning methods include coding review exercises, case studies and redacted medical records which demonstrate real-life scenarios and peer discussion. National coding certification exams are also introduced.

Prerequisite(s): ADMM1145

ADMM 2200 Medical Language Applications (3 credits) This course covers appropriate usage of medical language in written documentation. Authentic medical documentation will be reviewed. Proofreading for errors, analysis of content, spelling and phonetic problem solving are emphasized. A solid foundation of medical terminology is necessary for success in this class.

Prerequisite(s): None

ADMM 2228 Advanced Medical Transcription (3 credits) This course is a continuation of medical transcription practice. Emphasis is placed on independent practice of techniques used in a medical transcription setting. Proper formatting, appropriate terminology and development of transcription proficiency are stressed.

Prerequisite(s): ADMM1170

ADMM 2245 Inpatient Billing (3 credits) This course is designed to transition the student's knowledge of billing and coding concepts to billing and coding in a hospital environment. The course provides an introduction to the hospital environment and billing process. Coding concepts are reviewed in the context of hospital coding. Discussion on the relationship between billing, coding, documentation, claims forms and reimbursement is presented in various sections to provide an overall view of the connection between various elements in the billing process.

Prerequisite(s): None

ADMM 2252 ICD-10-CM (3 credits) This course is an introduction to diagnosis coding for billing and insurance purposes. Topics include the basis for classifying and indexing diagnoses for the purpose of standardization, retrieval, and statistical

analysis. The course prepares students to assign International Classification of Diseases (ICD) diagnostic codes supported by medical documentation with entry-level proficiency.

Prerequisite(s): ADMM2200 (Medical Language Applications)

ADMM 2265 Advanced ICD-10 (3 credits) This course introduces students to International Classification of Diseases, Procedure Coding System (ICD-10-PCS) coding and provides in-depth knowledge of this procedural coding system. Review of International Classification of Diseases, Clinical Modification (ICD-10-CM) coding and relevant coding guidelines is also provided. Advanced case studies utilizing redacted medical records reinforce real-world coding principles.

Prerequisite(s): ADMM2252

ADMM 2270 Healthcare Leadership (2 or 3 credits) This course will develop necessary skills to lead a healthcare support team. The topics will include leadership styles, communication, problem solving, and team development.

Prerequisites: None

Co-requisites: None

ADMM 2280 Advanced Medical Coding (3 credits) This course simulates medical coding in the real world and is designed to give a full account of the healthcare code sets used within medical coding: Current Procedural Terminology (CPT), Healthcare Common Procedural Coding System (HCPCS), International Classification of Diseases, 10th revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, 10th revision, Procedure Coding System (ICD-10-PCS). Codes are presented along with an account of healthcare billing basics, as well as a description of the interconnectedness of medical coding and billing. Students gain knowledge in use of American Health Information Management Association (AHIMA) VLab software, specifically 3M Coding and Reimbursement System. Career search and advanced coding certification research is also performed.

Prerequisite(s): ADMM1150, ADMM1175

ADMM 2285 Internship (2 credits) This course is designed to provide a purposeful occupational experience in Healthcare Administrative Specialist or Medical Coding career fields. Each internship is an individualized experience. A training plan is created in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program.

Prerequisite(s): Advisor approval

ADMM 2290 Internship (3 credits) This course provides the medical secretary student with practical occupational experience in a health care-related facility. Each internship is an individualized experience. Each student prepares a training plan in conjunction with the training site to provide guided experiences related to the skills and knowledge acquired in the medical secretary program.

Prerequisite(s): None

ADMS 1100 Keyboarding I (3 credits) This course covers the development of keyboarding and formatting techniques. Emphasis is on building speed and accuracy in the operation of the alphabetic, numeric, symbol, and service keys and in introducing document formatting concepts. Proofreading skills are stressed.

Prerequisite(s): None

ADMS 1102 Keyboarding II (3 credits) This course covers the development of formatting and text editing techniques. Emphasis is on building speed and accuracy in the operation of the alpha, numeric, symbol, and service keys and in developing

text editing concept, critical thinking and decision making. Proofreading skills are stressed.

Prerequisite(s): ADMS1100 (Keyboarding I)

ADMS 1112 Desktop Publishing/Presentation Graphics (3 credits) This course introduces the concepts, terminology, techniques, and applications of desktop publishing. Students will integrate word processing and graphics to facilitate the designing of printed pages and presentations. Students learn to manipulate text and graphics to produce professional publications and business presentations using microcomputer software. Students will reinforce critical thinking skills in planning, designing, and evaluating business documents and presentations.

Prerequisite(s): CPTR1104 (Intro to Computer)

ADMS 1116 Business Communications (3 credits) This course covers composing, editing, and proofreading memos, letters, and other business documents. The principles of grammar, punctuation, spelling, and word use are developed and applied. The application of teamwork and critical thinking skills is included in the course.

Prerequisite(s): ENGL0050, or appropriate assessment scores

ADMS 1126 Business Office Management (3 credits) This course covers office support functions appropriate in a variety of business settings such as: work organization, time management, scheduling, organizing meetings, records management, transcription techniques, document production and arranging travel

ADMS 2124 Advanced Micro Computer (3 credits) Advanced Microcomputer Technology is a "literacy" course. This course provides an overview of microcomputer concepts such as hardware devices, types of software, networking, internet applications, and computer security.

Prerequisite(s): None

ADMS 2226 Advanced Administrative Office Applications (3 credits) This course is designed to provide the student with advanced software application skills in spreadsheets, databases, and email as used in the office environment. Topics include applying document formatting, managing workbooks/worksheets, demonstrating importing and exporting of data, refining queries, generating forms and reports, organizing items using folders, customizing calendar settings, scheduling meetings and appointments, and creating groups and distribution lists.

Prerequisite(s): CPTR1104 (Intro to Computers)

ADNG 1000 Foundations of Nursing (2 credits) The course introduces the fundamentals of nursing care and the interactive role of the nurse. Physiological topics covered include: integumentary system, elimination, infection control, safety, and assessment across the life-span. Psychosocial topics covered include: therapeutic and professional interpersonal communication and cultural competence. Nursing professional topics include: the nursing process, evidence-based practice (EBP), confidentiality, patient education, professionalism, scope of practice, and nursing informatics.

Prerequisites: Admission to the program, Nursing Assistant Certification/Training, BIOL 2221, BIOL 2252, ENGL 1111

Co-requisites: ADNG 1050, BIOL 2254, MATH 1110/1930

ADNG 1050 Foundations – Nursing Skills (4 credits) The course introduces the fundamentals of nursing care and the interactive role of the Nurse. Skills addressed include Vital signs, documentation, physical assessment, nursing process, wound management, care of the surgical patient, vision-hearing screening, enteral feedings, urinary catheterization, ostomy care, airway management, and oxygen delivery devices. Medication administration concepts and associated psychomotor skills will be presented. Essential components of provider orders and the nursing role related to safe medication administration will be addressed.

Prerequisite(s): Admission to the program, Nursing Assistant Certification/Training, BIOL 2221, BIOL 2252, ENGL 1111

Co-requisite(s): ADNG1000, BIOL2254, MATH1110/1930

ADNG 1100 Pharmacology (2 credits) This course presents the foundational pharmacological concepts. Medications' physiologic effects on the body and pharmacologic principles will be emphasized. Pharmacology principles addressed will include: major pharmacological classifications; medication effects, side effects, adverse reactions, and age-specific modifications; essential components of provider orders; and the nursing role related to safe medication administration. Included in this course is information on pharmacokinetics, pharmacodynamics, common adverse/side effects, and contraindications to drug use. Emphasis is placed on drug classifications and nursing care related to the safe administration of medications to patients across the life span.

Prerequisite(s): ADNG1000, 1050, BIOL2254, MATH1110/1930

Co-requisite(s): ADNG1150, 1200, CHEM1100, PSYC2201

ADNG 1150 Nursing I (4 credits) This course explores foundational concepts related to the pathophysiological processes affecting homeostatic balance and cell survival in the human system. Concepts of fluid & electrolytes, acid-base, oxygenation & gas exchange, hematology, nutrition, and elimination will be discussed. Learners will use assessment data to evaluate expected and unexpected outcomes and form the basis for prioritizing expected medical and nursing management of care. The nursing process, clinical reasoning, and use of research-based nursing actions are integrated throughout the course as the foundation for assisting clients across the lifespan experiencing disruptions in the health-illness continuum.

Prerequisite(s): ADNG1000 & 1050 or ADNG 2300, BIOL2254, MATH1110/1930

Co-requisite(s): ADNG1100 & 1200 or ADNG1300, CHEM1100, PSYC2201

ADNG 1200 Clinical I (2 credits) This course will introduce the student to the role of the professional nurse in the clinical setting with the geriatric population. Emphasis will be placed on development as a member of the team, the establishment of therapeutic nurse-client relationships, and application of concepts and skills on stable patients. Role development will occur in a long-term care environment. The nursing process will be integrated throughout all aspects of the course.

Prerequisite(s): ADNG1000,1050, BIOL2254, MATH1110/1930

Co-requisite(s): ADNG1100, ADNG1150, PSYC2201, CHEM1100

ADNG 1300 Transition to Professional (4 credits) This course is designed to help the LPN prepare for the transition to the RN role. Transitional topics include scope of practice and role differentiation, physical assessment, nursing process, patient education and evidence-based practice. Safety, infection control, and select clinical skills will be addressed. This course addresses the integration and application of professional values and beliefs necessary for effective role transition.

Fees attached to course for Lab supplies- varies each year based on cost of supplies.

Prerequisite(s): Admission to program with LPN Advanced Standing, BIOL2252, BIOL2254, BIOL2221, ENGL1111, MATH1110 or 1930, CHEM1100, PSYC2201

Co-requisite(s): ADNG1150

ADNG 2050 Advanced Skills (2 credits) This course develops the role and competencies of the professional nurse as they relate to management of advanced nursing skills used in the healthcare setting. Skills and/or procedures addressed include: Intravenous (IV) therapy & critical care nursing concepts. Skills are presented within the context of the nursing process, evidence-based practice, and industry certified standards of practice.

Course fees include Lab Pack purchased through NTC bookstore. Cost varies annually.

Prerequisites: ADNG2100, ADNG2150, ADNG2400, BIOL2256

Co-requisites: ADNG2200, ADNG2250, ADNG2350, PHIL1201 or 2210

ADNG 2100 Clinical II (4 credits) This course will prepare the student to function in the clinical setting as a professional nurse with emphasis on utilization of the nursing process, therapeutic communication, client education, evidence-based practice, and critical thinking. The student will holistically assess, plan, implement, and evaluate care in an effort to promote, maintain, and/or restore health to a variety of patients.

Prerequisite(s): Generic Students: ADNG 1100, 1150, 1200, PSYC 2201, CHEM 1100

Prerequisite(s): Step-In Students: ADNG 1150, 1300

Co-requisite(s): ADNG 2400, 2150

ADNG 2150 Nursing II (4 credits) This course explores the complex pathophysiological processes related to immunologic function, cardiovascular function, and the integration and regulation of the human system. Students will use assessment data to evaluate critical patient indicators as the basis for prioritizing care. Students will examine expected medical and nursing management of clients experiencing disruptions in health. The nursing process, clinical reasoning, and EBP (evidence-based practice) nursing actions are integrated throughout the course, forming the foundation for assisting clients across the lifespan experiencing disruptions in the health-illness continuum.

Prerequisite(s): Generic Track: ADNG 1100, 1150, 1200, PSYC 2201, CHEM 1100

Prerequisite(s): Step-In Track: ADNG 1150, 1300

Co-requisite(s): ADNG 2100, 2400, BIOL 2256

ADNG 2200 Clinical III (4 credits) This course will provide an opportunity for the student to implement care in a variety of clinical settings. Emphasis will be on the integration of the cognitive, psychomotor, and affective domains of the professional role. Students will be expected to integrate skills learned in previous courses to provide safe, holistic, compassionate care, in a manner that respects the dignity and value of a variety of clients. Students learn to adapt and maintain effectiveness in new settings in an effort to promote, maintain, and/or restore health to a variety of patients.

Prerequisite(s): ADNG2050, 2100, 2150, BIOL2256

Co-requisite(s): ADNG2250, 2350, 2400, PHIL1201 or 2210

ADNG 2250 Leadership (2 credits) This course prepares the student to function in a multi-disciplinary, multicultural, dynamic environment. Scope of practice and role differentiation of health care practitioners is explored. The principles of leadership-management, delegation-supervision, teaching-learning, evidence-based practice, conflict management, and change are presented in the context of assimilating the ethics and standards of the profession.

Prerequisite(s): ADNG 2100, 2150, 2400 BIOL 2256

Co-requisite(s): ADNG 2050, 2200, 2350, PHIL 1201 or 2210

ADNG 2300 Advanced Standing (6 credits) LPN Advanced Standing

ADNG 2350 Maternal-Newborn Nursing (2 credits) This course focuses on nursing care, health promotion, safety, and collaborative interventions for individuals and families experiencing care in the maternal-newborn environment. Potential complications of the mother and newborn will be addressed. Emphasis will be placed on accurate interpretation of client assessment data, recognition of deviations from normal, and identification of priority nursing and collaborative interventions to achieve optimal patient outcomes.

Prerequisites: ADNG 2100, 2150, 2400, BIOL 2256

Co-requisites: ADNG 2050, ADNG 2200, ADNG 2250, PHIL 1201/2210

ADNG 2400 Psychosocial Nursing (2 credits) The foundation of this course recognizes that mental health and mental illness occurs on a continuum. This course will focus on the therapeutic environment and implementation of the nursing process for clients across the lifespan experiencing mental health problems. Emphasis will be placed on understanding biological and environmental influences on mental health, recognizing clients in need of care, accurate interpretation of client assessment data, health promotion, identification of priority nursing and collaborative interventions to achieve optimal patient outcomes, and evaluation of the plan of care.

Prerequisite(s): Generic Track: ADNG 1100, 1150, 1200, PSYC 2201, CHEM 1100

Prerequisite(s): Step-In Track: ADNG 1300, 1150

Co-requisite(s): ADNG 2100, 2150, BIOL 2256

AMST 1001 Automotive Motorsports Basics (4 credits) This course covers occupational safety, shop operation procedures, power and hand tools use, shop equipment applications, fasteners, measuring instruments, service literature, general service knowledge, acceptable work habits, industry standards and expectations.

AMST 1002 Introduction to Automotive Electrical/Electronics (4 credits) This course teaches the theory and operation of electricity, semi-conductors (transistors, diodes, light emitting diodes, fluorescent displays), and test instruments.

AMST 1003 Engine Theory/Service (4 credits) This course covers the fundamentals of internal combustion engine operation, repair and maintenance. The procedures for removal, replacement, diagnosing, rebuilding and assembly. Proper tool and equipment applications, and failure diagnosis are emphasized in this course.

AMST 1016 Brakes (credits) This course teaches principles of brakes, hydraulic system foundations, disc and drum brakes, parking brakes, and power assist units. Emphasis is placed on operation, diagnosis and repair of various types of brake systems. Electronic Anti-lock Brake Systems, Traction Control Systems, and Stability Control Systems are also covered.

Prerequisite(s): None

AMST 1102 Transportation Electronics (3 credits) Preparation for the electronic and computer related courses that follow. The theory and operation of electricity, semi-conductors (transistors, diodes, light emitting diodes, fluorescent displays), and test instruments will be studied.

Prerequisite(s): None

AMST 1104 Power Train Systems (4 credits) This course covers standard automotive and light truck clutches, drive line, differential/4x4, and manual transmission/transaxle. The clutch section includes design, adjustment, overhaul, diagnosis and repair of mechanical and hydraulic systems. The drive line section includes phasing, alignment, and balance. The differential/4x4 section covers the operation designs of various off-road, recreational, and highway vehicles. The manual transmission/transaxle section teaches the operating theory and repair procedures of manual transmissions and transaxles. Basic automatic transmission service is also covered.

Prerequisite(s): None

AMST 1105 Steering and Suspension (4 credits) This course covers the principals and operation of suspension and steering systems. Steering systems included are steering columns, power assist systems, steering gears, and rack & pinion systems. Suspension systems covered are independent, non-independent suspension, coil spring, leaf spring, torsion bar, conventional shocks, and strut systems. Alignment theory will be covered and 4 wheel alignment procedures will be performed. Advanced

suspension systems, electronic ride height, level control analysis and service are addressed. Tire and wheel service will also be addressed.

Prerequisite(s): None

AMST 1106 Engine Theory (2 credits) This course covers the fundamentals of internal combustion engine operation, repair and maintenance. The procedures for removal, replacement, diagnosing, rebuilding and assembly. Proper tool and equipment application, and failure diagnosis are emphasized in this course.

Prerequisite(s): None

AMST 1108 Engine Service (3 credits) This course covers the disassembly, diagnosis, measurement, service, assembly and adjustment of engines and components.

Prerequisite(s): None

AMST 1110 Starting & Charging Systems (3 credits) This course covers the service procedures necessary to repair charging and starting system components. Electrical principles are applied to test and troubleshoot complete circuits as well as components of each. Fundamental rebuilding principles and system analysis are emphasized. Safe battery testing and service are performed.

Prerequisite(s): None

AMST 1115 Alignment & Suspension (3 credits) This course teaches suspension systems using leaf springs, coil springs, MacPherson struts, torsion bars and wheel balance. It also covers the principles of operation, disassembly, checks and adjustments of power and manual steering gears, and manual and power rack and pinion systems. This course also teaches the procedures required to check and adjust wheel alignment angles such as castor, camber and toe on various suspension systems.

Prerequisite(s): None

AMST 1120 Automatic Transmissions II (2 credits) TBD

AMST 1130 Automotive Electrical II (4 credits) This course teaches diagnosis and repair of charging and starting systems, interior and exterior lighting, safety devices, body electrical systems, comfort systems, and door, window, & seat control systems. The learner will use wiring diagrams to pinpoint body electrical problems and troubles. Window, door, and seat control service will also be performed. Common vehicle accessories will also be addressed.

Prerequisite(s): None

AMST 1201 Chassis Dynamometer (4 credits) This course is designed to provide an opportunity for the student to gain proficiency in chassis' dynamometer operation, including software use, vehicle inspection, and vehicle restraints.

AMST 1212 Auto Transmission/Transaxle (5 credits) This course teaches the theory of operation of automatic transmissions and transaxles and the related components. The fundamentals of service of the components of the transmissions will be introduced and practiced in this course. Basic failure analysis will be introduced.

Prerequisite(s): None

AMST 1220 HP Drivelines (4 credits) This course covers the principals of high performance Transmissions, Differentials and related drive train parts. Students will gain perform tasks related to ring and pinion set-up, and traction aids. Theory and application of automatic transmissions, and modifications that will include torque converter applications and trans-brakes. High performance manual transmission theory and service and HP braking systems will also be covered.

Prerequisite(s): None

AMST 1330 HP Fuel/Electronics/Ignitions (4 credits) This course covers the principles of different performance enhancements systems/devices for race and street applications. Students will install and test performance devices on our Mustang chassis dynamometer and Land & Sea engine dynamometer. Systems tested will include fuel systems, exhaust systems, air induction systems, ignitions systems and engine management systems.

Prerequisite(s): None

AMST 2001 Intro to Transportation (1 credit) This course covers occupational safety, shop operation procedures, power and hand tool use, shop equipment applications, fasteners, measuring instruments, service literature, general service knowledge, acceptable work habits, industry standards and expectations.

Prerequisite(s): None

AMST 2113 Heating Ventilation A/C (2 credits) This course teaches the principles of air conditioning and its relationship to the heating system. The various types, the diagnosis of malfunctions, testing and repair are studied in the classroom. Practical experience is performed on live systems: recovering, evacuating, component replacement, charging and performance testing of the heating and air-conditioning systems.

AMST 2200 Engine Condition Diagnosis (4 credits) This course teaches ignition theory and engine diagnosis procedures using various types of test equipment and analysis of data as compared to manufacturer's specifications. Use of tools, test equipment and service literature are emphasized.

Prerequisite(s): None

AMST 2202 Fuel & Exhaust Analysis (2 credits) This course teaches vehicle emission theory, principles of operation, component testing and servicing, and environmental standards.

Prerequisite(s): None

AMST 2206 Body Electrical/Mechanical (3 credits) This course teaches diagnosis and repair of interior and exterior lighting, safety devices, comfort systems, and door, window, and seat control systems. The student will use wiring diagrams to pinpoint body electrical problems and troubles. Window, door, and seat control service will also be performed. Common vehicle accessories will also be addressed.

Prerequisite(s): None

AMST 2210 Shop Operations (3 credits) This course covers the daily operations of an automotive shop. Students will have to work with customers, fill out workorders, diagnosis vehicle systems, and repair vehicle systems to industry standards.

Prerequisite(s): AMST2210

AMST 2212 Introduction to Hybrid Vehicles (2 credit) This course covers the theory of hybrid vehicle systems and their operation. The environmental impact of carbon based fuels will be covered. Manufacturer specific information related to hybrid vehicles and working safely on hybrid vehicles. Other Alternative Fuel systems will also be covered in this course.

Prerequisite(s): None

AMST 2215 Motorsports Fabrication (4 credits) This course covers the basic skills required to perform repairs to the automotive chassis. Using basic gas, Arc, MIG & TIG welding procedures. Plasma cutting, grinding skills, metalworking, basic sheet metal work, tube bending and notching will also be covered. Students will design and build projects in tube steel, sheet metal. Basic lathe and mill procedures. Prerequisite(s): None

AMST 2216 Engine Performance (2 credits) This course will study the many electronic control systems used on today's passenger cars and light trucks. Examples of these systems are: fuel injection, fuel delivery, ignition, emissions, engine management, and the second-generation OBD-II strategy. The environmental impact of automobiles will be addressed. Use of

service literature is emphasized.

Prerequisite(s): None

AMST 2217 Engine Performance Lab (4 credits) In this course, students will work with scan tools, oscilloscopes, and other test equipment to diagnosis the many electronic, and mechanical engine systems used on today's passenger cars and light trucks. Students will also remove and install components related to the following systems: fuel injection, fuel delivery, ignition, emissions, engine management, and the mechanical systems of the automotive engine. Students will compare the results of their diagnosis to the manufactures specifications and determine necessary repairs. The use of service literature is emphasized.

Prerequisite(s): None

AMST 2220 Introduction to Hybrid Vehicles (2 credits) This course covers the theory of hybrid vehicle systems and their operation. The environmental impact of carbon based fuels will be covered. Manufacturer specific information related to hybrid vehicles and working safely on hybrid vehicles. Other alternate fuel systems will also be covered in this course.

AMST 2225 Introduction to Motor Sports Fabrication I (2 credits) This course covers the basic skills required to perform repairs to the automotive chassis. Using basic gas, Arc, MIG & TIG welding procedures. Plasma cutting, grinding skills, metalworking, basic sheetmetal work, tube bending and notching will also be covered. This is an introduction to these skills and all are covered lightly in this course.

Prerequisite(s): None

AMST 2230 Auto Diesel/Diesel Performance (3 credits) This course will cover principals of automotive diesel engines, combustion chamber designs, injection pumps/injectors, common rail fuel injection and turbocharger operation. Air induction and exhaust treatment systems will also be covered.

Prerequisite(s): None

AMST 2231 Introduction to Motor Sports Fabrication II (2 credits) This course covers the basic skills required to perform repairs to the automotive chassis. Using basic gas, Arc, MIG & TIG welding procedures. Plasma cutting, grinding skills, metalworking, basic sheetmetal work, tube bending and notching will also be covered. This is an introduction to these skills and all are covered lightly in this course.

Prerequisite(s): AMST2225 (Intro Motor Sports Fab I)

AMST 2235 Industry Certification Preparation (1 credit) This course will prepare the student to take the industry certification tests in multiple automotive service areas.

Prerequisite(s): None

AMST 2236 Chassis Dynamometer Lab (2 credits) This course is designed to provide an opportunity for the student to gain proficiency in chassis dynamometer operation, including software use, vehicle inspection, weighing vehicles, and properly installing vehicle restraints.

Prerequisite(s): None

AMST 2242 Forced Induction Systems (3 credits) This course covers the basic theory of operation for turbochargers and superchargers. How to service and maintain stock turbo and supercharger systems. In addition, you will learn to size, design, install and dynamometer tune performance aftermarket turbo charger and supercharger systems. Related systems will be addressed to insure safe engine operation with forced induction systems.

AMST 2800 Capstone (4 credits) This course is a culminating experience, it is designed to provide opportunities for students to integrate knowledge from their core and concentration courses, to gain insight into the meanings of professionalism and professional practice, and to reflect on the norms of a discipline or profession. The project/experience must be preapproved by the Instructor.

ANTH 1110 Cultural Anthropology (3 credits) Meets MnTC goal area(s): 2,5. The course is meant to introduce students both to the diversity of human cultures, to the diversity within each of them, with an emphasis on so-called traditional societies. It looks at the major human institutions: kinship and marriage, economic production and reciprocity, gender and domestic relations, political power and forms of stratification, religious and healing beliefs and techniques, rites of passage and the life cycle. It attempts to make sense of cultural relativity: how seemingly very different customs or institutions can actually be so similar, in structure or function; but also how apparently very similar institutions can, in different societies, be in fact so different.

Prerequisite(s): None

ARTS 1000 Art Appreciation (3 credits) Meets MnTC Goal Area 6: Art Appreciation is an introductory course which provides a comprehensive overview of visual arts. It serves to enhance understanding and appreciation for a broad range of imagery, media, artists, movement and periods in history. This course illustrates the place of art in social and cultural life and encourages students to develop judgment in art analysis and criticism.

Prerequisite(s): None

BEST 1100 Basic Education & Skills Training - HVAC (2 credits) This is an introductory course where students will develop and apply basic academic and career skills contextualized in the HVAC field of study.

BIOL 1004 Intro to Anatomy & Physiology (3 credits) This course is designed to assist the student in developing a basic understanding of the normal structure and function of the body.

Prerequisite(s): None

BIOL 1111 General Biology (4 credits) This is an introductory level course where students study fundamental concepts of cell biology, the chemical and physical basis of life, concepts in genetics, evolution, and the impact that biological and genetic advances have on society and the biosphere. This course includes 3 lecture hours and 2 lab hours per week. Prerequisites: None

BIOL 1131 Nutrition (2 credits) This course is designed to introduce the student to the science of nutrition, the study of food nutrients and other substances, their action, interaction, and balance. Special emphasis is placed on the interrelationship between diet, nutrition, health, and disease.

Prerequisite: None.

BIOL 2130 Principles of Nutrition (3 credits) Meets MnTC Goal: 3 Principles of Nutrition provides an introduction to the basic concepts related to nutrients in foods and their metabolic functions. The course will also focus on methods for assessing nutritional status and dietary adequacy, as well as its applications to phases of the human life cycle.

Prerequisite(s): None

BIOL 2221 Microbiology (3 credits) Meets MnTC goal area(s):3 This course is an introduction to fundamental theories, principles and methods of microbiology. Structure, function, effects of physical factors, and inhibition and killing of microorganisms will be studied. Microbial interactions with humans and their immune system are introduced. Students are

familiarized with the concepts of medical and environmental microbiology and microbial diversity, as well as the necessary laboratory techniques needed to study those organisms. This course includes a laboratory component.

Prerequisite: None

BIOL 2252 Anatomy & Physiology I (3 credits) Meets MnTC Goal area(s):3 Prerequisite(s):BIOL1004 or appropriate score on the science assessment. This course is a comprehensive overview of human anatomy and physiology. The course is a study of the cells, tissues, and organs of the integumentary, skeletal, muscular and nervous systems. This course includes a laboratory component.

BIOL 2254 Anatomy & Physiology II (3 credits) Meets MnTC Goal Area(s):3 Prerequisite(s):BIOL2252 or Anatomy & Physiology I. This course is a comprehensive overview of human anatomy and physiology. Study of the cells, tissues, and organs of the endocrine, circulatory, lymphatic, respiratory, digestive, excretory, and reproductive systems. This course includes a laboratory component.

BIOL 2256 Advanced Physiology (2 credits) Meets MnTC goal area(s):3 Prerequisite: BIOL2254 or Anatomy & Physiology II. This course is designed to increase the students understanding of the mechanisms involved in the normal functioning of the human body, with lesser emphasis regarding the effects of disease on that functioning. Focus is on the body defenses and interaction and integration of body processes. Upon completion of this course, students should have an enhanced knowledge and appreciation to the complexities of the human body by learning both the human anatomy of physiology for multiple organ systems and an understanding of cellular and molecular mechanisms that underlie human physiology. This is a general education course for all students interested in better understanding of human physiology. This course includes lab-like activities and exercises.

BLDG 1010 Weatherization Installer Training (2 credits) Weatherization Installation training part of the Residential Energy Auditing program.

BLDG 1013 New Home Energy System Fabrication - Welding (1 credit) This is a course for participants to learn basic welding skills necessary for New Home Energy System Fabrication. Very elementary welding training.

BLDG 1100 Plans and Specifications (2 credits) This course provides the student with a working knowledge of blueprints and specifications. The student gains an understanding of blueprints, then interprets and applies this knowledge to job situations.
Prerequisite: None

BLDG 1102 Construction Safety (1 credit) This course provides students with an understanding of occupational safety practices, basic requirements, purpose and enforcement of general safety rules. Prerequisite(s): None.

BLDG 1105 Intro to Maintenance (2 credits)

BLDG 1106 Construction Codes (1 credit) This course provides an introduction of current adopted building codes in the field of architecture. Emphasis will be placed on examination of code requirements and their effect on building design.
Prerequisite(s): None

BLDG 1108 Metal Fabrication (2 credits) This course provides an understanding of the scope and importance of welding in our society; welding safety, basic joints, positions, processes, welding procedures, electricity, and certification. An intro to

SMAW (stick), GMAW (wire), and oxy-acet processes will be covered utilizing lecture and lab exercises.

Prerequisite(s): None

BLDG 1112 Construction Technologies (2 credits) This course provides an overview of the construction industry and introduces the student to the duties and responsibilities of the construction professional. Students will be exposed to the fundamentals of construction techniques and methods employed by professional in the industry with an emphasis on career opportunities.

BLDG 1115 Building and Grounds (3 credits)

BLDG 2120 Building Preventative Maintenance (2 credits)

BLDG 2130 Chemical Use (2 credits)

BUSN 1100 Entrepreneurial Finance (3 credits) This course will provide the student with the information and tools necessary to fund a small business. The student will be exposed to various methods of raising both start-up and operating capital. These methods include bank loans, SBA loans, and venture financing. The student will practice presenting his or her company in preparation for presenting to bankers and investors. The key topics include evaluating new business ideas and ventures, reading and understanding financial statements of rapidly growing companies, and developing financing strategies. There will also be discussion on various debt and equity alternatives of financing, the different valuation techniques, and key tactics and approaches to negotiating term sheets.

Prerequisite(s): None

BUSN 1110 Entrepreneurial Operations (2 credits) This is an integrative course that focuses on consulting assignments with actual small business firms. It draws in the skills learned in the several business disciplines, and applies them to operating small businesses, including identifying problems and opportunities, and solving them. This is an integrating course dealing with the problems of general management of businesses and organizations. Strategy is stressed, using cases, simulation and field study and experiential activities for analysis and decision making.

Prerequisite(s): None

BUSN 2100 Business Statistics (3 credits) This course is a collection, presentation, analysis and interpretation of business and economic data.

Prerequisite(s): None

CDEV 1000 Special Topics in Early Childhood (1 credit) Students will attend a pre-approved early childhood conference, identify and assess information presented relative to principles of early childhood education and caregiving, and apply the information to their current situation. Students will complete additional research related to the conference topics.

CDEV 1001 Special Topics in Early Childhood Development (1 credit) Special Topics in Early Childhood Development is directed at those who wish to improve their skills in working with the field of child development in the early stages of the child's life.

CDEV 1100 Healthy, Developmentally Appropriate Environment (3 credits) This course provides an exploration of safe and healthy home or center learning environments for children, birth through school-age. The student will examine and plan developmentally appropriate learning activities and centers, as well as explore topics such as preventing illness, preventing accidents, handling emergencies, meeting children's basic nutritional needs, child abuse, and current health related issues.

Prerequisite(s): None

Co-requisite(s): CDEV1102, CDEV1104, ENGL0100

CDEV 1102 Parent & Professional Relations (3 credits) This course covers the relationship between the caregiver, families and co-workers. It explores strategies to maintain an open, friendly, and cooperative relationship with families and co-workers. Community and cultural considerations, potential barriers that may inhibit parent involvement, and strategies for productive family involvement are examined. This course will also explore parent conferences, conflict resolution, and staff professionalism.

Prerequisite(s): None

Co-requisite(s): ENGL0100

CDEV 1104 Child Development and Learning (3 credits) This course provides an overview of child development from prenatal through eight years of age. Emphasis is placed on developmental domains and learning: physical, cognitive, language, creative, emotional, and social (includes cultural). It integrates theory with observation and assessment of development in home and center-based settings.

Prerequisite: None

Co-requisite: ENGL0100

CDEV 1110 Field I (1 credit) This course provides an opportunity to apply knowledge and skill in an actual child development setting. The student will demonstrate competency in promoting health, safety, and nutrition, arranging a developmentally appropriate learning environment, and communicating with parents

Prerequisite(s): None

Co-requisite(s): CDEV1100

CDEV 1112 Field II (1 credit) This course provides the student an opportunity to apply knowledge and skill in an actual child development setting. The student will demonstrate competency in promoting health, safety, and nutrition, observing child development, and observing and assessing guidance procedures.

Prerequisite(s): CDEV1100

Co-requisite(s): None

CDEV 1114 Society/Family Dynamics (3 credits) This course provides the student with an opportunity to examine how current societal and community issues impact the well-being of children and the well-being of families. Cultural diversity/dynamics, bias, public education, housing, employment, crime, health care, legal services, and social services will be explored.

Prerequisite(s): None

Co-requisite(s): ENGL0100

CDEV 1116 Relations and Mgmt in Early Child Ed (3 credits) This course gives the student an introduction to basic child guidance techniques for individual and group settings; students develop skills in relations with children, parents, and co-workers. Emphasis is placed on positive guidance strategies and anti-bias techniques for building and maintaining an encouraging classroom. Recognition, prevention, communication, limit setting, and problem solving are examined. This course

integrates theory with developmentally appropriate practices in home and center-based settings.

Prerequisite(s): CDEV1100

CDEV 1126 Careers in Early Childhood (1 credit) The student will explore early childhood career opportunities and investigate a variety of child development programs. The student will examine job requirements, duties, regulations, and personal characteristics of successful workers.

Prerequisite(s): None

CDEV 1130 Special Needs in Early Childhood (3 credits) This course examines the development of children with special needs and prepares caregivers to integrate children with special needs into child development settings. The course includes discussion of important aspects of education for young children in special education and inclusive settings and facilitates students' development of educational philosophy.

Prerequisite(s): CDEV1100

Co-requisite(s): CDEV1116

CDEV 1132 Special Needs Lab (1 credit) This course provides an overview of learning experiences for children with special needs in integrated child development settings. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective teaching methods. Students inter-relate experiences working with young children with special needs to a developing educational philosophy.

Prerequisite(s): CDEV1100

Co-requisite(s): CDEV1130

CDEV 2202 Abuse and Neglect (2 credits) This course provides students an opportunity to examine child abuse and neglect with an emphasis on the role of child development professionals in the identification, prevention, and treatment of child abuse and neglect.

Prerequisite(s): None

Co-requisite(s): ENGL0100

CDEV 2206 Observing & Assessing (3 credits) This course provides the student with an opportunity to observe and assess children's development. Under the supervision of an instructor, the student observes, records, interprets and develops plans to strengthen the development of infants through school-age.

Prerequisite(s): CDEV1132

Co-requisite(s): None

CDEV 2208 Infant/Toddler Learning Exper (4 credits) This course provides an overview of infant/toddler learning experiences, in home or center-based settings through the arrangement of the physical setting, provision of materials, construction of curriculum and implementation of learning experiences. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective caregiving and teaching methods in an approved lab setting.

Prerequisite(s): CDEV1132

Co-requisite(s): None

CDEV 2216 Children with Difficult Behavior (2 credits) This course provides the student an opportunity to assess challenging behavior in children. The student will examine factors contributing to challenging behavior and identify prevention and positive guidance intervention strategies to resolve challenging behavior.

Prerequisite(s): CDEV1132

Co-requisite(s): CDEV2206

CDEV 2220 Foundations of Early Childhood Educations (3 credits) This course provides an advanced level exploration of program management skills for teachers of preschoolers and primary grades. Emphasis is on organizing, implementing, and evaluating a quality, comprehensive program that facilitates health development.

Prerequisite(s): CDEV1132

CDEV 2222 School-Age Development (2 credits) This course provides the student with an overview of school-age development: physical, cognitive, language, creative and social-emotional. It integrates theory with developmentally appropriate practice in home and center settings. The student will plan appropriate materials and activities for school-age children.

Prerequisite(s): CDEV1132

Co-requisite(s): None

CDEV 2224 Children's Literature and Literacy (3 credits) This course provides a detailed study of children's literature/literacy experiences in either home or center-based settings. Students will integrate knowledge of children's language development, learning environments, and teaching methods to select, plan, present, and evaluate literature/literacy, experiences for children.

Prerequisite(s): CDEV2220

CDEV 2240 Field III - Advanced (4 credits) This course provides the learner with an opportunity to integrate theory and practice, applying knowledge and skill in an instructor approved, licensed child development setting. Learners participate in the setting as members of the teaching team. Learners implement a variety of learning experiences that are developmentally appropriate and culturally sensitive for a specific group of children. Learners complete a portfolio documenting selected learning experiences. This course is not designed to transfer to a four-year university.

Prerequisite(s): Instructor approval

CDEV 2286 Pre-School Internship (4 credits) This course provides the learner an opportunity to integrate theory and practice, applying knowledge and skills in an instructor approved, licensed pre-school development setting. Learners participate in the setting as members of the teaching team. Learners implement a variety of learning experiences that are developmentally appropriate and culturally sensitive for a specific group of children. Learners complete a portfolio documenting learning experiences based on selected BOT standards.

Prerequisite(s): Instructor approval

CHEM 1100 Intro to Chemistry (4 credits) Meets MnTC Goal Area(s):3

Prerequisite(s): MATH0080 This course is designed to provide the student with an understanding of principles and theories of chemistry, atomic and molecular structure, elements, compounds, mixtures, the periodic table, the nature of gasses, liquids and solid states, chemical reactions and stoichiometry. This course includes a laboratory component.

CMAE 1502 Technical Math (3 credits) 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 algebra and geometry used in a technical setting. This course will show how these skills can model and solve authentic real-world problems.

CMAE 1506 Introduction to Computers (2 credits) 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.

CMAE 1510 Print Reading (2 credits) 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.

CMAE 1514 Safety Awareness (2 credits) 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 Administration (OSHA) standards relating to Personal Protective Equipment (PPE), lockout/tagout (LOTO), Hazardous Material (HAZMAT), tool safety, and confined spaces.

Prerequisites: Appropriate placement scores for Reading

CMAE 1518 Manufacturing Engineering Technology/Technician (2 credits) This course aligns with the Manufacturing Skill Standards Council's (MSSC) assessment and certification system for Manufacturing Processes. The curriculum is based upon federally endorsed national standards for production workers emphasizing lean manufacturing principles, basic supply chain management, communication skills, and customer service.

CMAE 1522 Quality Practices (2 credits) 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. These include corrective actions, preventative actions, control of documents, control of quality records, internal auditing of processes, and control of non-conforming product.

CMAE 1526 Maintenance Awareness (2 credits) 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 predictive and Total Productive Maintenance (TPM) with the fundamental principles of lubrication, electricity, hydraulics, pneumatics, and power transmission systems.

Prerequisites: Appropriate placement scores for Reading.

CMAE 1528 Career Success Skills (1 credit) This is an introductory career success skills course. The primary goal of this course is to help individuals acquire a solid foundation in the basic skills for a successful career. This course will identify the skills important to businesses and help the student assess his/her level of skill. The course will provide suggestions for how the student can improve his/her level of skill.

CMAE 1550 DC Power (3 credits) Prerequisite(s): None

Co-requisite(s): CMAE1502

CMAE 1552 AC Power (3 credits) 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.

Prerequisite(s) CMAE1550, DC Circuits or equivalent course

CMAE 1558 Motor Controls (3 credits) This course introduces the student to motor control components and provides them with a basic knowledge of control circuitry. Devices such as contactors, motor-starters, relays, timers, mechanical, and

proximity switches are used. Electronic motor controls and programmable devices are introduced in this course.

Prerequisite(s): DC or AC circuits or equivalent

CMAE 1560 Interpreting Symbols (2 credits) Welding symbols are used to facilitate communication among the designer, fabricator, and inspection personnel. To accurately layout and fabricate parts, the welder will need basic knowledge of working drawings and their significance to the welding industry. Students will break down welding prints to develop skills necessary to fabricate individual component parts of welded structures. Written and fundamental tests will be administered in accordance with American Welding Society (AWS) standards and the appropriate correlating code books (AWS A2.4).

Prerequisites: Appropriate placement scores for Reading.

CMAE 1562 Oxyfuel Welding (3 credits) Covers the use of oxy-fuel equipment while welding, cutting, brazing, using Plasma Arc Cutting (PAC) and Air Carbon Arc Cutting (CAC-A) processes, including thermal welding, laser cutting equipment and safety. Welds will be made in flat, horizontal, vertical and overhead positions. Written and fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards.

CMAE 1564 Shielded Metal Arc Welding (SMAW) (3 credits) Students will study and demonstrate safety practices with Shielded Metal Arc Welding (SMAW). Students will also be introduced to 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 utilizing SMAW processes. Welds will be made in the flat, horizontal, vertical, and overhead positions. Written and fundamental tests will be completed in accordance with American Welding Society (AWS) codes and standards.

Prerequisites: Appropriate placement scores for Reading.

CMAE 1566 Gas Metal Arc Welding/ Flux Cored Arc Welding (3 credits) Students will study and demonstrate safety practices with Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). The GMAW and FCAW processes will be discussed in depth including the different type of modes of transfer available, shielding gases, and the different types of materials that can be welded. 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 arc welding symbols and codes. There will also be a review of procedures used in visual inspections of welds. Time will be spent in the lab developing skills using GMAW and FCAW processes. Welds will be made in the flat, horizontal, vertical, and overhead positions. Written and fundamental tests will be completed in accordance with American Welding Society (AWS) codes and standards.

Prerequisites: Appropriate placement scores for Reading.

CMAE 1568 Gas Tungsten Arc Welding (3 credits) This course covers the safety hazards and applications for Gas Tungsten Arc Welding (GTAW) in the welding industry. Material covered will be power sources, setup, types of current, current selection, shielding gases, and torch types. Procedures and potential problems welding various metals (Aluminum, Stainless Steel, and Mild Steel) will be addressed in this course. Applications for the process in different industries, as well as the use of back purging will be discussed. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and fundamental tests will be completed in accordance with the American Welding Society (AWS) codes and standards.

Prerequisites: Appropriate placement scores for Reading.

CMAE 1570 Metallurgy (1 credit) This course covers the study of metals and the effects of welding and heat treatments on them. Metallurgical terminology 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 different types of metals. The range of materials and their usefulness in particular applications will be discussed. Written tests will be completed in accordance with the American Welding Society (AWS) codes and standards.

Prerequisites: Appropriate placement scores for Reading.

CMHW 1000 Advocacy and Outreach (3 credits) This online course defines the role of the Community Health Worker (CHW). Students will explain knowledge of personal safety, self-care, and personal wellness.

This course will introduce concepts of verbal and non-verbal communication required for the CHW to effectively interacting with clients, their families and healthcare providers.

Students apply skills such as active listening, interviewing, networking, rapport building and teamwork. Students will apply advocacy and outreach skills with multicultural awareness and cultural sensitivity.

This course will require one synchronous online meeting.

Students will be notified of the meeting date and time no less than 3 weeks prior to the scheduled meeting.

Prerequisites: None

Co-requisites: None

CMHW 1100 Community, Capacity Building & Teaching (3 credits) This online course focuses on the Community Health Worker's (CHW) knowledge of the community and the ability to prioritize and organize work. Emphasis will be on the use of critical analysis of resources and problem solving.

This course also focuses on the CHW's role as a teacher in order to increase the capability of the community and the client to access the health care and social services systems. Course materials will emphasis empowering clients to become self-sufficient in achieving personal health goals within the role of the CHW.

Prerequisites: None

Co-requisites: None

CMHW 1200 Communications, Competence & Legal/Ethical Implications of the CHW (3 credits) This online course focuses on the legal and ethical dimensions of the Community Health Worker's (CHW) role. Included are boundaries of the CHW position, agency policies, confidentiality, liability, mandatory reporting, and cultural issues that can influence legal and ethical responsibilities.

This course also focuses on the importance and ability of the CHW to gather, document and report client visits and other activities. The emphasis is on appropriate, accurate and clear documentation considering legal and agency requirements.

Prerequisite(s): None

CMHW 1300 Health Promotion Competencies (3 credits) In this online course students will learn about 7 specific conditions: Healthy lifestyles/wellness, Heart Disease/Stroke, Maternal/Child/Teen health, Diabetes, Cancer, Oral health, and mental health. Students will become familiar with risk factors, warning signs, preventative screenings, treatments and, disease specific evidence-based services.

Students will apply with various self-management techniques particularly motivational interviewing and the teach-back method.

Prerequisite(s): CMHW 1000, CMHW 1100, CMHW 1200, ENGL 0100, and MATH 0080 or MATH 0081 or appropriate assessment scores

Co-requisites: None

CMHW 1400 Community Health Worker Internship (2 credits) Students will complete three different practical experiences (field exploration, field experience, field application & see internship description document). Students will also discuss issues relevant to their internships and future careers as CHWs. The student is expected to complete a total of 80 hours at their approved internship site, under the supervision of an approved internship mentor.

Prerequisite(s): CMHW1000, CMHW1100, CMHW1200, ENGL0100, and MATH0080 or MATH 0081 or appropriate assessment scores, completion of Complio compliance requirements

Co-requisites: None

COMM 1102 Applied Communications (3 credits) This course is designed to teach the basics of style and substance in oral and written communications. Students will: 1)gain confidence in preparing, practicing, and evaluating written and oral work, 2)understand communication theory, 3)produce clear, creative, and logical speeches and application letters, and 4)understand the vital role communication has in the world of work.

Prerequisite(s): ENGL0100 or appropriate assessment score

COMM 2250 Technical Communications (2 credits) This course is designed to help the student understand the importance of written and verbal communication in the workplace and to improve the student's ability to discuss employment-related concepts and write about them in an organized, clear, concise, and correct manner. The foundation of technical communication is audience analysis, careful observation, accurate summary, insightful analysis and evaluation, and fair use of material from other sources, will be applied to various technical formats and applied to the student's field of study.

Prerequisite(s): ENGL0100 or appropriate assessment score

CONE 1102 Intro to Electrical Circuit Theory (4 credits) This introductory course provides the knowledge of electrical theory including atomic structure, Ohm's Law, complex circuits, sine wave principles, inductive and capacitive circuits as it relates to the National Electrical Code.

Prerequisite(s): None

CONE 1104 Intro to NEC (2 credits) This course provides an introduction to the National Electrical Code. The student develops basic skills and understanding of the National Electrical Code book and how it applies to electrical applications in the field.

Prerequisite(s): None

CONE 1106 Wiring I (4 credits) This is course in an introductory course to the electrical construction industry. Students will be introduced to various hand and power tools used in the electrical field. Students will learn about basic electrical circuits and wiring methods through hands on lab projects. Residential service equipment and basic electrical circuits will be examined.

This course emphasizes applying safe work practices and the National Electrical Code.

Prerequisite(s): None

Co-requisite(s): Cone 1104

CONE 1107 Intro to Residential Wiring (3 credits) This course provides a fundamental technical understanding of residential wiring. In addition, basic wiring skills for residential occupancies will be practiced in lab settings for residential occupancies applying National Electrical Code standards.

Prerequisite(s): None

Co-requisite(s): BLDG1102

CONE 1108 Electrical Circuit Theory (4 credits) This course provides the student with an understanding of complex RLC circuits, single-phase and three-phase transformer connections and calculations.

Prerequisite(s): CONE1102

CONE 1110 AC/DC Motors/Generators (4 credits) This course provides a fundamental understanding of AC and DC motor generator theory and basic skills. This course includes types, construction, operation, installation, and maintenance of AC and DC motors and generators.

Prerequisite(s): None

CONE 1113 Residential Wiring (4 credits) This course provides students with expanded technical understanding and skills necessary for residential wiring. Students will be provided with experience for installations common to residential structures including general receptacles, lighting and designated circuit layout and installation.

Prerequisite(s): BLDG1102, CONE1107

CONE 1114 National Electrical Code (2 credits) This course provides an understanding of the National Electrical Code articles related to overcurrent protection, raceways, special systems, panelboards, motors, compressors, transformers and the State Electrical Act.

Prerequisite(s): None

CONE 1115 Electrical Blueprint/Estimating (2 credits) This course provides the student with a working knowledge of residential blueprints and specifications. The student gains an understanding of blueprints, then interprets and applies this knowledge to the electrical industry.

Prerequisite(s): None.

CONE 1116 Conduit/Tool Applications (2 credits) Numerous applications and skills will be developed in this course including bending, threading, and installation of various types of conduit. This course also provides a review of the operation and safety of both hand and power tools used in the construction electricity field.

Prerequisite(s): None

CONE 1117 Residential Wiring Lab (5 credits) This course covers the practical applications of residential wiring including materials used, proper tool care and use. Topics include installation of wiring methods, branch circuits, service-entrance equipment, device installation, blueprint reading, and application of the National Electric Code.

This course is integrated with Residential Wiring and Intro to the NEC students must also be enrolled in CONE 1107 and CONE 1104.

CONE 1119 Wiring II (6 credits) This course covers the practical applications of residential wiring including materials used, proper tool care and use. Topics include installation of wiring methods, branch circuits, service load calculations, sub panel and feeder sizing and installation, blueprint reading, and application of the National Electric Code.

Prerequisite(s): CONE 1106

CONE 1122 Intro to Materials (1 credit) This course provides an introduction to electrical material used in industry. The student develops basic skills and understanding of the material and how it applies to electrical applications in the field.

Prerequisite(s): None

CONE 1300 Electrical Safety (2 credits) This course provides students with an understanding of occupational safety practices and requirements associated with working in the electrical industry. It also covers the purpose and enforcement of general safety rules.

Prerequisite(s): None

CONE 2000 Industry Career Skills (1 credit) This course examines the material and design aspects of residential wiring. Topics included are wire types, power generation, residential and career opportunities.

CONE 2100 Instrumental Process Control (2 credits) This Course familiarizes student with Instrumentation and Process Control.

CONE 2106 Wiring III (5 credits) This course examines the material and design aspects of commercial wiring. Topics included are raceways, boxes, design requirements for conduit layouts, circuit overcurrent protection, branch circuit, receptacles, lighting control and lighting. The National Electric Code (NEC) will be used as a standard for the lab installations. Safety on the job will be emphasized in the course.

Prerequisite(s): CONE 1119

Co-requisite(s): None

CONE 2107 Wiring IV (5 credits) This course covers the installation methods and materials used in commercial and industrial wiring. Topics included are transformers, busways, motor installation, distribution, special systems, and industrial hazardous locations, and the study of the National Electrical Code relating to these topics.

Prerequisite(s): CONE 2106

Co-requisite(s): None

CONE 2114 National Electrical Code II (2 credits) This course covers the use of the current National Electrical Code. All chapters of the NEC will be examined with an emphasis on Grounding, Special Occupancies, Special Equipment, Special Conditions and Communication Systems.

Prerequisite(s): CONE 1114

CONE 2200 Building Automation (3 credits) This course will enable you to identify and describe the major components in a BAS along with the basic mechanical components and controls in an HVAC control system. You will be able to describe and explain the basic functions of DDC systems and HMI basics, reference codes and standards applicable to BAS, and justify control components for project work.

Prerequisite(s): None

CONE 2204 Heating/Cooling Controls (4 credits) This course introduces basic electric heating, gas, oil, and heat pump and cooling system installation and control. Topics included are installing wiring for heating and air conditioning systems, replacing controls, measuring instruments, and schematic interpretation.

Prerequisite(s): CONE1116 or instructor permission

CONE 2206 Intro to Motor Control Applications (3 credits) This course provides an understanding of motor control symbols, line diagrams, contractors, starters, and operating circuits. Lab procedures demonstrate components, circuitry, and operation learned in theory. Measured data is recorded and interpreted.

Prerequisite(s): CONE1108, 1110

CONE 2210 Electronic Motor Control (2 credits) This course provides application of basic theory and operation to electronic motor control including semi-conductor, rectifiers, regulators, and amplifiers.

Prerequisite(s): BLDG1102, CONE1108

CONE 2212 Commercial Wiring (3 credits) This course covers materials and design aspects of commercial wiring, in particular, lighting and fuse applications. Topics included are lighting and lamp installation and selection, fuse selection, special outlets, load schedule, short circuit calculations and emergency illumination.

Prerequisite: BLDG1102

CONE 2216 Motor Control (3 credits) This course provides an advanced understanding of circuits controlling motors. Topics include jogging, braking, plugging, reduced voltage starting, phase loss protection, latching relays, time delay relays, and safety requirements. Lab procedures demonstrate components, circuitry, and operation learned in theory. Measured data is recorded and interpreted.

Prerequisite(s): CONE2206 or INDT1100

CONE 2217 Commercial Wiring Lab (5 credits) This course is a hands on application of commercial wiring. Topics included are raceways, boxes, design requirements for conduit layouts, circuit overcurrent protection, lighting, and service equipment.

CONE 2225 Transformers (2 credits) This course covers the concepts of transformer operation. Single-phase and three-phase (polyphase) transformer operation and installation methods are explored. Included in the course are the following topics: transformer operation, transformation relationships, transformer losses, transformer types, transformer testing, series and parallel operation, connections, instrument transformers, and maintenance procedures. National Electrical Code requirements for transformer installations are developed and utilized.

Prerequisite(s): CONE1108

CONE 2226 Motor Control Lab (4 credits) This course provides the knowledge of electrical motors, including ladder logic, safety practices, NEC code applications, control, and complex schematic reading and circuit wiring.

CONE 2228 Troubleshooting (1 credit) This course provides an application of principles of construction electricity to a variety of situations for the purpose of identifying and solving electrical problems. Emphasis is placed on electrical circuits pertaining to commercial, industrial, and motor control applications.

Prerequisite(s): CONE1107, 1113 and 2206

CONE 2238 Low Voltage Wiring (2 credits) This course provides students with the understanding of installation procedures and National Electrical Code requirements for coax, telephone, fire alarm, security, fiber optic, Cat 4, Cat 5, and other low voltage wiring systems.

Prerequisite(s): None

CONE 2242 Alternative Energy Methods (2 credits) This course will cover basic principles and history of alternative energy sources. The utilization of renewable sources (solar, wind, geothermal, etc.) as well as alternatives in building operations (microturbines, fuel cells, combined heat and power) will be examined. Alternative and traditional energies will be defined and

compared in terms of today's use. Emerging energy career areas will be discussed.

Prerequisite(s): None

CONE 2248 Code Applications (2 credits) This course applies the principles of the National Electrical Code to job specific situations.

Prerequisite(s): CONE1104, CONE1114

CONE 2250 Special Topics/Projects (2 credits) The student works with an advisor and instructor to develop a contract with specific goals in areas deemed applicable to the construction electricity industry and the student's career plan. This opportunity may be limited by conditions such as instructor/lab/material availability.

Prerequisite(s): 12 CONE credits

CONE 2300 Programmable Logic Controllers (3 credits) This course covers the theory, operation, installation, hardware, software, and practical applications of the programmable logic controllers. Basic PLC programming techniques for counters, timers, and sequencers will be presented.

Prerequisite: Instructor approval

CONE 2307 Industrial Wiring (2 credits) This course covers the installation methods and materials used in industrial wiring. Topics included are transformers, busways, motor installation, industrial metering, overcurrent system coordination, ground detection, grounding systems, power factor correction, surge protection, distribution, special systems, and industrial hazardous locations, and the study of the National Electrical Code relating to these topics.

Prerequisite(s): None

CONE 2400 Adv Programmable Logic Control (2 credits) This Course familiarizes student with programmable logic controllers and builds proficiency in programming PLC's for use in automation.

CONE 2600 Grounding and Bonding (2 credits) This course combines lecture and laboratory practice to introduce students to the knowledge surrounding the grounding and bonding of electrical systems and how it is addressed in the National Electric Code. The course introduces students to the equipment, materials, testing processes, and provides instruction on the grounding and bonding techniques.

Written and demonstration tests will be done in accordance with the industry standards and the current edition of the National Electric Code.

Prerequisites: CONE 2114

Co-requisites: None

CONE 2800 Capstone (3 credits) This course provides an understanding of the National Electrical Code articles related to overcurrent protection, raceways, special systems, panelboards, motors, compressors, transformers and the State Electrical Act.

Prerequisite(s): None

CPTR 1104 Computerized Business Applications (3 credits) This course consists of 2 parts. Part 1 is a Literacy component covering D2L/E-mail, Smartthinking/Research, and computer security. Part 2 of the course covers Microsoft Office including Word, Excel, Access, and PowerPoint.

Prerequisite(s): None

CPTR 1105 Intro to Computers - Medical Applications (3 credits) This course will introduce students to concepts and skills they will need for a successful career in the medical office field. Students will receive instruction on key tasks for studying medical assisting, health information management and health information technology. In addition, the course will cover word processing, excel, power-point, access, email, Internet and Desire to Learn.

Prerequisite(s): None

CPTR 1106 Microcomputer Databases (3 credits) This course covers database concepts, design, and construction using the latest database software. Topics include database normalization and table relationships, database objects, file creation, file manipulation, queries, macros, form development, and report generation. Database programming concepts will also be introduced.

Prerequisite: CPTR1104

CPTR 1138 Information Systems (3 credits) This course is an introduction to information systems. Topics include an overview of data communications and information systems used in a variety of organization types, network hardware, software, topologies and resources, hardware and communications standards, and the systems development life cycle.

Prerequisite(s): None

CPTR 1142 Network Essentials (3 credits) This course gives students the knowledge necessary to work with network administration environments. As well as learn the ability to implement, administer, and troubleshoot information systems.

Prerequisite(s): None

CPTR 1148 Microcomputer Operating Systems (3 credits) This course covers basic information about computer hardware and software and the use of the Windows operating system. Topics include file management techniques, utilizing common screen elements, multi-tasking, object linking, and customizing the desktop.

Prerequisite(s): None

CREF 1600 Commercial Refrigeration Introduction Internship (1 credit) The purpose of the Commercial Refrigeration Introduction Internship or early experiential learning experience is to enable the Commercial Refrigeration students to gain valuable work experience within the true industry environment. This experience is designed to complement the course work taken so that your technical education experience is enhanced. Experiential learning is an educational plan that integrates classroom study with practical work experience. It is intended to contribute meaningfully to your over-all preparation by providing an opportunity for the practical application of skills and concepts learned in your technical classes. An internship is much more than a job; it is a course which offers you an individualized educational experience through the study of a structured employment situation. The credit is for the learning-not the work experience.

Prerequisites: None

Co-requisites: None

CREF 1700 Introduction Commercial Refrigeration Systems (3 credits) This course covers the theory of and practical application in the maintenance of commercial refrigeration; high, medium and low temperature systems as they relate to Light Commercial Refrigeration. The student will have an understanding of various controls and components used in these applications. This course covers design, installation, piping procedures, wiring, operation, and troubleshooting. The student will also study air-cooled, water cooled, and evaporative-cooled condensers and their applications.

Prerequisites: None

Co-requisites: None

CREF 1710 Introduction To Commercial Refrigeration Electronic Controls Systems (4 credits) This course will focus on basic procedures related to the design, installation and repair of commercial HVAC equipment electronic control systems.

Prerequisites: CREF1700

Co-requisites: None

CREF 2100 Commercial Refrigeration Racks & Chillers Theory Design & Install (4 credits) Commercial Refrigeration Rack and Chillers Theory, Design, and Install will covers both large and small commercial applications including high pressure systems, low pressure systems, lithium bromide systems, and ammonia systems, identification of compressors and controls, evaporators, condensers, connecting refrigerant lines, and system accessories; use of refrigerants; evacuation; pressurizing; testing for leaks; and charging. Students will also tear down and inspect compressors.

Prerequisites: CREF1700

Co-requisites: CREF1710

CREF 2600 Commercial Refrigeration Capstone Internship (3 credits) The Commercial Refrigeration Capstone Internship provides college credit for work experience in a field related to the student's degree program. As the capstone course for the program, the internship integrates the knowledge, concepts and skills associated with a program of study and helps students understand the "real world" applications of their academic studies. It is one of the final courses taken fourth semester. The student's work experience must meet identified learning outcomes in order to get course credit. The internship is much more than a job; it is a course which offers you an individualized educational experience through the study of a structured employment situation. The credit is for the learning-not the work experience.

Prerequisites: None

Co-requisites: 4th Semester Course

CRLT 1102 Contemporary Career Search (1 credit) This course covers such contemporary career topics as employer expectations, job market trends, networking, and various aspects of the employment search process, including legal and ethical issues. To apply their knowledge of the employment process, students develop resumes, letters, and applications as well as identify and use effective interviewing techniques. This course emphasizes a comprehensive knowledge of career processes that will serve students throughout their working lives.

Prerequisite(s): None

CRLT 1105 Introduction to Post-Secondary Education (1 credit) This course is intended to develop 21st Century skills and attitudes that will help students effectively make critical decisions about their education that can shape their future.

Prerequisite(s): None

CTEC 1100 Security Essentials (2 credits) This entry level course is for anyone interested in learning computer networking and security basics. This course will also prepare students for the Security 5 certification test.

CTEC 1106 Helpdesk Operations (3 credits)

CTEC 1108 E-Merging Technologies (3 credits) Technological advances have resulted in new ways to communicate in business and personal situations. This course covers the latest trends in communication technology as well as issues arising from these new communications opportunities. Topics include, but are not limited to, enhancing written business communications to foster understanding, integration of application software to produce business communications, online meetings, publishing to the internet, and web page development.

Prerequisite(s): CPTR1104

DENT 1010 Infection Control (1 credits) In this course students will learn about infection control practices relevant to the dental profession. Topics include the concepts of disease transmission and infection prevention, principles and techniques of disinfection, instrument processing and sterilization, regulatory and advisory agencies, and occupational health and safety.

DENT 1100 Biomaterials (3 credits) This is a foundation course that provides in-depth instruction and practice in identifying the materials, their purposes and properties as they are used during chairside and laboratory procedures. Material manipulation is a critical requirement of the lab component of this course. Laboratory safety measures and infection control are emphasized.

Prerequisite(s): ENGL0100, MATH0081 or appropriate assessment score

DENT 1106 Biodental Science (2 credits) This course provides an introduction to anatomy and physiology, an introduction to dental histology and embryology, and an overview of head and neck anatomy. This course is also designed to give the student basic concepts of microbiology and disease transmission and a survey of oral pathology and diseases.

Prerequisite(s): ENGL0100, MATH0080 or appropriate assessment score

DENT 1112 Dental Anatomy (3 credits) The lecture portion of the course introduces the student to basic terminology for understanding the structures that form the foundation for tooth function, normal anatomy of the oral cavity, and tooth and root morphology. Lab sessions will provide opportunities for the student to work with tooth identification and charting systems, intraoral imagery, and occlusion assessment. Special topics include survey of dental anomalies, cavity classifications, and forensic dentistry.

Prerequisite(s): ENGL0100, MATH0081 or appropriate assessment score

DENT 1114 Dental Radiology (4 credits) The lecture component of this course includes an overview of the history of x-ray development, a review of basic mathematics and radiation physics as they apply to x-ray production and radiographic quality, darkroom chemistry, radiation hygiene and safety, interpretation of normal anatomy and dental film analysis, radiographic interpretation and evaluation, and quality assurance issues. Lab sessions will allow the student to develop radiographic skills, and clinic sessions create an opportunity for students to enhance their efficiency in radiographic technique.

Prerequisite(s): ENGL0100, MATH0081 or appropriate assessment score.

DENT 1120 Dental Pharmacology (2 credits) This course introduces dental assisting and dental hygiene students to basic drug classifications, their indications, contraindications, therapeutic effects, potential side effects and oral manifestations. Emphasis is placed on the physical and chemical properties of drugs used in dentistry, related to pharmacological pain control principles, and various anesthesia techniques.

Prerequisite(s): ENGL0100, MATH0081 or appropriate score on assessment

DENT 1122 Dental Ethics & Jurisprudence (1 credit) This course focuses on the ethical and legal implications of providing dental, dental assisting, and dental hygiene care. The practice acts for Minnesota and North Dakota will also be studied.

Prerequisite(s): DENT1112, DNAS1112

DENT 1124 Clinical Assisting I (4 credits) This course includes an orientation to the history of dentistry, educational requirements, credentialing opportunities and professional associations for dental and allied dental careers. The student is provided with instruction in the use of dental equipment, instruments and supplies; principles of four-handed dentistry; concepts of infection control and instrument recirculation; management of medical and dental emergencies; and procedures related to oral diagnosis, preventive dentistry, and restorative dentistry.

Prerequisite(s): ENGL0100, MATH0081 or appropriate assessment score

Co-requisite: DENT1100

DENT 1126 Clinical Assisting II (4 credits) This course introduces the student to the dental specialties of Pediatric dentistry, Periodontics, Oral and Maxillofacial Surgery, Endodontics, Prosthodontics (fixed and removable), Orthodontics and also special needs patients. The student will be introduced to the lab and clinical procedures with each of the specialties listed. The lab portion will also build on material learned in Clinical Assisting I (DNAS1112). Student will repeat certain hands-on skills with an expectation of greater proficiency.

Prerequisite(s): Clinical Assisting I (DNAS1112)

DENT 1130 Dental Prac Management (1 credit) This course provides the student with instruction in the principles and applications that are related to the management of a dental office. Emphasis is placed on managing patient records, financial records, third party payments, appointment scheduling, inventory and recall systems.

Prerequisite(s): DENT1112, DNAS1112

DENT 1132 Credentialing Exam Preparation (1 credit) This course will provide information to prepare the individual for taking the dental assisting credentialing examinations. The topics included are those that are tested by the national certification and state board registration exams. This course is appropriate for those individuals who are in need of becoming re-credentialed or for those seeking initial credentialing.

Prerequisite: Instructor Approval

DENT 1134 Clinical Affiliation (7 credits) This is a faculty-supervised course at extramural sites with dentists and dental auxiliaries providing ancillary supervision. The student will be provided with clinical experiences by affiliations in general dentistry and/or specialized practices. Emphasis is on professionalism in performing general chairside and advanced intraoral procedures.

Prerequisites: Instructor Approval

DENT 1136 Advanced Functions (7 credits) This course is designed to provide the student with instruction and practice to perform the clinical competence in the following intraoral functions approved by the Minnesota Board of Dentistry: taking radiographic exposures, performing mechanical polishing, taking preliminary impressions and bite registrations, applying topical fluoride, whitening agents, placing and removing dental dam, placing and removing periodontal dressing, removing excess cement, and applying pit and fissure sealants, inducing patients to nitrous-oxide/oxygen sedation and removing excess bonding material from orthodontic appliances with a rotary handpiece, In addition the following intraoral functions are taught and practiced to laboratory competency: applying non-fluoride topical medications, removing sutures, preliminary adaptation of temporary (provisional) crowns, performing selected orthodontic functions.

Prerequisite(s): DENT1100, DENT1112, DENT1114, DNAS1106, DNAS1112, HPER1410

DENT 1500 Dental Health (3 credits) This course covers the basic principles of nutrition, pharmacology, ergonomics, and citizenship skills as they apply to the dental field. Students will be introduced to basic nutritional concepts and its effects on the human body from the standpoint of general health and the relationship to oral disease. Students will also learn about medications that are commonly seen in the dental setting and the diseases, indications for which these drugs are prescribed

and adverse reactions that can result in medical emergencies in the dental office. In addition, students will learn how ergonomic principles apply to dental assisting. Students will also participate in service-learning projects to gain a sense of community contribution and experience.

Prerequisites: ENGL0100, GTEC0006, MATH0081 or appropriate score on assessment

ECON 2204 Markets & Resource Allocation (3 credits) Meets MnTC Goal Area(s):5 This course covers the various terminology and microeconomics principles. The course will explain and evaluate markets as mechanisms to signal consumer preferences and induce seller's responses to changes in the market. Students will be exposed to how the free enterprise market works, money and prices, supply and demand, the costs and factors of production, monopoly, oligopoly, and the role of buyers and sellers in the competitive market.

Prerequisite(s):None

ECON 2404 Macroeconomics and the Business Cycle (3 credits) Students will learn macroeconomic concepts to explore the determination of aggregate output, employment, and the price level in modern mixed economies. The interaction between the financial sector and commodity markets and the potential of monetary and fiscal policy to guide the course of the macro economy are also explored.

ENER 1500 PV System Design & Install (2 credits) This course introduces the student to the fundamentals of photovoltaic (PV) system design and installation procedures. Indoor classroom activities supplement outdoor fieldwork that will involve the installation of a residential scale PV system. Students completing this course will have the basic knowledge of photovoltaic systems suitable for a supervised, entry level position with a dealer/installer or other PV industry company.

Prerequisite(s): None

Co-requisite(s): ENER1400

ENGL 0100 Reading, Reasoning & Writing (4 credits) The purpose of this course is to enhance students' skills in critical thinking, reading and writing. Students will: Read actively and critically, and effectively use textual annotation; Identify and deconstruct abstract ideas found in complex academic texts; Formulate and explain valid inferences based on information from texts; Write and evaluate arguments for validity and credibility; Locate, evaluate and synthesize ideas and information from multiple sources and varying points of view; Support ideas with adequate and varied evidence; Summarize, paraphrase and quote information from source materials; Create citations using information from source materials; Tailor language to address a specific audience; Employ syntax and usage appropriate to academic disciplines and the professional world; and Use strategies to effectively address the non-cognitive issues that could affect students' academic success.

Prerequisite(s): None

ENGL 1111 College Writing I (3 credits) Meets MnTC Goal Area(s):1, 2 This course is an introduction to college-level writing, focusing on descriptive, narrative, persuasive and expository essays that are written clearly, concisely and correctly. This course seeks to develop writers who 1) understand the importance of using the writing process (invention, organization, drafting, revision, proofreading, and editing) to produce interesting, thoughtful and thought-provoking essays; 2) understand the role the active reading of professional and peer review plays writing well. Students in this course will share their writing and actively participate in discussion and peer review groups.

Prerequisite(s): ENGL0100 or appropriate assessment score

ENGL 1113 College Writing II (3 credits) Meets MnTC Goal Area(s):1, 2 Prerequisite(s):ENGL0100 or appropriate score on assessment.

GERO 1100 Intro to Gerontology (3 credits) This course is an overview of the multidisciplinary study of the biological, psychological, and social aspects of aging. This course explores the human aging process from these perspectives. Attention is also given to programs and services for the elderly.

Prerequisites: College Readiness courses or waiver.

Co-requisites: None

GERO 1200 Biology of Aging (3 credits) This course will explore biological changes that occur with aging, including descriptions of population aging and theories on how and why we age. It will focus on the process of aging in the various body systems, and the clinical implications of age-related diseases.

Prerequisites: College Readiness or waiver; HS Biology

Co-requisites: None

GERO 1230 Healthy Aging (3 credits) Provides an overview of practices to promote healthy aging. Addresses nutrition, physical activity, and prevention practices as well as other health maintenance/management strategies. Emphasis is on practices to address current aging trends.

Prerequisites: College Readiness or waiver, GERO 1200

Co-requisites: None

GERO 1250 Dementia and Alzheimer's (3 credits) Examine the signs, symptoms and stages of Alzheimer's and other forms of dementia and how these diseases affect physiology and brain function. This course focuses on the principles of communicating and providing care to individuals with memory loss and confusion while learning the best practices for dealing with behavior changes, challenges with the activities of daily living, and strategies to assist caregivers.

Prerequisites: College Readiness or waiver, GERO 1200

Co-requisites: None

GERO 1300 Death and Dying (3 credits) This course provides students with the biological, sociological, and psychological perspectives of death, dying, and bereavement in our society and around the world as well as Advanced Care Planning.

Prerequisites: College Readiness or waiver; Psychology (can be any Psychology)

Co-requisites: GERO 1305

GERO 1305 Psychosocial Aspects of Aging (3 credits) Students will become familiar with societal views of aging and the elderly. Students will understand the psychological, sociological, economic, political, and diversity aspects of aging. Students will also learn of the psychosocial challenges of caregivers as well as availability of resources for end of life issues. Students will learn various communication strategies.

Prerequisites: College Readiness or waiver

Co-requisites: None

HLTH 1000 Introduction to Health Careers (2 credits) This course will familiarize students with the historical, philosophical, and social foundations of the health care system and various health careers. Students will explore career options within the fields of allied health. Course content is designed to provide glimpses into various aspects of health careers, to promote discussion, and to encourage critical reflection and self-exploration.

HLTH 1106 Medical Terminology (2 credits) This course covers prefixes, suffixes, and roots used to compose medical terms. The student learns to spell, pronounce, define, analyze, and formulate terminology related to body structure, disease, diagnosis, and treatment. Medical abbreviations are also included.

Prerequisite(s): None

HLTH 1110 Nursing Assistant (3 credits) This course is intended to prepare the student to practice as Nursing Assistants and serve as an introduction to nursing for students who continue in nursing education. The integrated curriculum meets state and federal requirements. Students are introduced to the concepts of basic human need and learn to assist individuals in activities of daily living. Principles of body mechanics are emphasized. Selected common technical nursing skills are introduced. Successful completion of this course prepares the participant to take the state approved competency evaluation and seek employment in long-term care settings.

Prerequisite(s): None

HLTH 1111 Refresher Nursing Assistant Skills (0.25 credits) Refresher Nursing Assistant skills

HLTH 1112 Home Health Aide (1 credit) This course covers an introduction to home care. Topics include observing, reporting, and documenting; caring for special populations, includes mentally challenged, mentally ill, chemically dependent, and developmentally disabled; care of the child, includes handicapped, genetic challenges and abuse; homemaking skills, including food and meal management, nutrition and time management; and hospice care. The course has been approved by the Minnesota Department of Health for online delivery.

Prerequisite(s): HLTH1110 or other Minnesota Department of Health approved Nursing Assistant training site course.

HLTH 2002 Pharmacology (2 credits) This course introduces the student to basic pharmacological concepts, drug legislation, and drug categories. Emphasis is placed on commonly used drugs and their effects on body systems. Drug reference utilization is included.

Prerequisite(s): BIOL1004

HLTH 2208 Pathophysiology (3 credits) This course presents information related to pathophysiology of various body systems. The nature, cause, diagnosis, and treatment of common disease conditions will be emphasized.

Prerequisite(s): None

HPER 1410 First Aid / CPR (1 credit) This course provides training in American Heart Association BLS (Basic Life Support) CPR with AED training used in the healthcare setting and American Red Cross basic first aid procedures. Students who successfully complete the course will receive the AHA Basic Life Support certification.

Prerequisite(s): None

HPER 2200 CPR Healthcare Provider (1 credit) This course teaches American Heart Association Healthcare Provider course content.

Prerequisite(s): None

HPER 2300 CPR Recertification (0credits) This course is a CPR for Healthcare Provider and FA/CPR recertification following American Heart Association guidelines.

Prerequisite(s): None

HUMN 1101 Intro to Humanities (3 credits) Meets MnTC goal areas: 2 and 6 This course serves as a general introduction to the role that humanities-the Arts, Literature, and Philosophy-play in shaping humanity's conception of itself and society. This

course serves to expand the student's knowledge of the human condition and human cultures, especially the values expressed in works of human imagination and thought. This course also covers thinking skills by developing thinkers who are able to unify factual, creative, rational, and value-sensitive modes of thought.

Prerequisite(s): None.

HVAC 3000 New Home Energy System Fabrication - Heating, Ventilation and Cooling (1 credit) Basics of Heating, Ventilation and Cooling in New Home Energy System Fabrication

IHS 1000 Concepts in Safety and Health for the Supervisor (1 credit) This course is a safety and health continuing education program for persons in the Supervisor, Foreman, Construction Managers, Manufacturing lead personnel, Human Resource Professional, and middle to upper level management or other individuals who want to receive an in-depth understanding of the safety and health regulatory environment facing all types of employment and industries.

IND 1004 Project Lead The Way (0credits) High School program that encourages students to apply science, technology, engineering and math skills to build and display items that perform a function or shows processes for addressing various issues. Projects are then put on display at Northwest Technical College.

IND 310 Section 608 Certification (0credits) 608 Certification is for those who work on industrial stationary cooling systems. The Federal Government requires all individuals who open a system or container holding a controlled refrigerant to be certified. Persons who work on stationary equipment or use refrigerant designed for these systems can become certified by passing a proctored Section 608 examination.

INDT 1100 Basic Electricity/Electronics for Technology (3 credits) This course surveys the fundamentals of electricity & electronics by introducing alternating current and direct current electricity, basic electronic components, and simple circuit design and troubleshooting.

Prerequisite(s): None

INDT 1200 2D CAD Design (3 credits) This course will provide students with an introduction into 2-dimensional Computer-Aided Design (CAD). There will be an emphasis on construction- and architecture-specific applications. Students will complete hands-on exercises, assignments, and projects.

Prerequisite(s): None

MATH 0081 Math Foundations (QR-Ready) (3 credits) This developmental course provides an alternative pathway to a college level liberal arts mathematics course. All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental, and health issues that require quantitative reasoning skills. An activity-based approach is used to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is the first in a two-part sequence and is not suited for Science, Technology, Engineering, or Math (STEM) students.

Prerequisite(s): None

MATH 0092 Algebra Foundations (3 credits) This course is an introduction to algebra concepts. This course covers polynomials, equations, formulas, ratios, proportions, graphing, factoring, and systems of linear equations and their solutions, exponents, rational expressions, radicals, and quadratic equations. All topics have appropriate applications to the technical college education.

Prerequisite(s): MATH0081 or appropriate assessment score

MATH 1100 Technical Mathematics (3 credits) This course presents basic mathematical topics as they are applied in a technical program. The course includes a review of basic mathematical operations, and continues with the development of algebraic and trigonometric skills in a technical setting. Most concepts will be applied through course specific problems. This course is not intended for transfer.

Prerequisite(s): MATH0081 or appropriate assessment score

MATH 1110 College Algebra (3 credits) Meets MnTC Goal Area(s) 4: Problem solving with linear, quadratic, rational and absolute value equations and inequalities; function notation and inverses; graphs of relations and functions; polynomial, rational, exponential, and logarithmic functions and applications; systems of equations and inequalities, matrices.

Prerequisite(s): MATH 0092 or ACT Math score of 22 or Accuplacer score of 250 or Next Generation Accuplacer Advanced Algebra & Functions

Co-Requisite(s): None

MATH 1930 Introduction to Mathematical Sciences (3 credits) Meets MnTransfer Goal Area 4: This course integrates the study of algebra and statistics. Topics include functions, graphical and tabular analysis, rate of change, syntax and semantics, the process of computing, data manipulation, sampling, statistical measures, basic probability, correlation. Examples are drawn from a wide range of disciplines and content will be taught within the framework of discipline-specific examples. This course will be taught in a lab environment, the sessions will be a mix of lecture, individual work, and group work. Student participation and activity learning will be stressed.

Prerequisite(s): MATH 0081 or MATH 0092 or appropriate assessment score

MATH 2200 Statistics (3 credits) Meets MnTransfer Goal Area 4: A nontheoretical introduction to statistics with an emphasis on applications in a variety of disciplines. Topics include measures of central tendency, position and dispersion; basic probability; hypothesis testing; estimation; analysis of variance; linear correlation and regression; nonparametric statistics.

Prerequisite(s): Three years of high school mathematics (including two years of algebra) or completion of MATH 1110 or higher.

METC 2000 Hydraulic Systems (3 credits) This course covers both hydraulic theory and application as it relates to components, circuits, and systems. Both mobile and industrial hydraulics will be covered comparing similarities and differences. Throughout the course students will confirm their circuit designs with mathematical calculations and then confirm their calculations by building and testing their circuits.

Prerequisite(s): INDT1100, MATH0092 or MATH1930 or appropriate assessment score, METC2050

METC 2020 Production/Operations Management (3 credits) The concepts of production and operation management need to be understood by all levels of the organization and is particularly important for most engineering technology and managerial positions that are directly involved in the production and operations of the organization. This course covers the decision areas that contribute to organizations efficiency and effectiveness, including the areas of process design, quality, workplace design,

and production/inventory management.

Prerequisite(s): MATH0092 or MATH1930 or appropriate assessment score, METC1070

METC 2050 Power Transmission System (3 credits) TBD

METC 2100 CAM/CNC Computer Manufacturing (3 credits) This course will teach the fundamentals of Computer Aided Manufacturing (CAM) and its use with Computer Numerical Control (CNC) machines and Computer Aided Design (CAD) software. Participants will perform a series of hands-on activities where they will create drawings using CAD software and generate programs in a CAM software that can be run on CNC machines. Robot programming and handskaing will be covered. Participants will learn various methods of testing including program simulation.

Prerequisite(s): METC1070, METC2010

METC 2110 Jig/ Fixture Design for Manufacturing (3 credits) This course covers jigs & fixtures used in manufacturing to introduce the student to the theory of jigs and fixtures as well as exposing the student to the application of jigs and fixtures. The course will be delivered through lecture, research, hands on demonstrations, assigned homework, and actual design of general jig and fixture solutions using a solid modeling CAD package of choice. Students should be proficient in using parametric modeling CAD software.

Prerequisite(s): METC1070 and METC2010 or MODL2250

METC 2120 Pneumatic Systems (3 credits) This course covers both pneumatic theory and applications as it relates to components, circuits, and systems. Both mobile and industrial pneumatics will be covered comparing similarities and differences. Throughout the course students will confirm their circuit designs with mathematical calculations and then confirm their calculations by building and testing their circuits.

Prerequisite(s): INDT1100, MATH0092 or MATH1930 or appropriate assessment score, METC2050

METC 2270 Manufacturing Internship (3 credits) This course provides participants with on-the-job opportunities to explore and/or practice specific areas of interest related to manufacturing technologies and supervision. Internship opportunities fall under three broad categories of: 1 Manufacturing Processes and Design Technologies, 2 Systems and Components for Industrial Automation, and 3 Management and Productivity Improvement.

Prerequisite(s): Approval of plans developed by the participant.

METC 2300 Manufacturing Safety & Leadership (3 credits) This course is designed to be a safety course combining the technical aspects of industrial safety with the leadership skills required to function in a position responsible to others for their safety and coaching. The course will examine specific principles and practices of health and safety in the industrial environment and will emphasize common techniques and methods used to deliver such content in order to simultaneously provide the student the skills to both practice the safety content presented and teach the content to others in the workforce. Topics covered include product safety, process safety, personal safety, legal considerations, personal liability, and supervisory responsibilities. This course is targeted for students that as part of their job will be responsible for the safety of others either directly or indirectly in jobs such as applied engineering, manufacturing, electronics, drafting, design, automation, robotics, fluid power, industrial technology, operations management, maintenance or others that need to understand industrial safety at a technical level and provide the leadership role.

Prerequisite(s): METC1070, 2020, PHIL1201 OR SAFE1011, 1022, PHIL1201

MFGT 1000 CNC Operator Level I (5 credits) CNC Mill Operator Level I course emphasizes how to safely power up and power down a CNC mill, locate a work piece in a mill work holding device, the operation of a CNC mill in the automatic mode, responding to a CNC mill malfunction, troubleshooting basic CNC malfunctions and inspect finished parts. This course enables the operator with a good understanding of how a CNC mill operates to efficiently and effectively produce products in an industrial setting.

Prerequisite(s): None

MKTG 1106 Professional Sales (3 credits) This course covers a fundamental sales approach that can be used as a foundation for future sales courses. The content covers steps used to plan a sales presentation and methods of determining and filling prospect needs or wants.

Prerequisite(s): None

MKTG 1108 Customer Relations Mgmt (3 credits) Customer service can determine a company's success or failure. Customer service skills can determine an employee's success or failure. This course covers the skills necessary for an individual to build and maintain good relationships with internal and external customers and the role the customer service team plays in developing, evaluating, and improving customer service systems.

Prerequisite(s): None

MKTG 1112 Retailing Management (3 credits) This course provides an overview of the concepts and skills needed to operate a successful retail operation. Topics include retailing terminology, current practices in merchandising, types of retail institutions, site election, inventory control, and pricing.

Prerequisite(s): None

MKTG 1116 Advertising & Promotion (3 credits) This course is intended to acquaint students with advertising media, budgets, selection, ad copy, and layout. Also, students gain an understanding of advertising campaigns, promotional events, and techniques.

Prerequisite(s): None

MKTG 2100 Prin of Marketing (3 credits) This course introduces students to the dynamic field of marketing. This course is a comprehensive study of the marketing principles and concepts and their application to a changing business world.

Prerequisite(s): None

MKTG 2200 Prin of Management (3 credits) This course is designed to expose the student to a variety of concepts presented within the framework of the traditional functions of management. The various approaches to planning, decision making, organizing, motivation, leadership, communications, and controlling are explored.

Prerequisite(s): None

MKTG 2204 Advanced Professional Selling (3 credits) This course provides opportunity for the student to apply the steps of a sales presentation by planning and performing sales presentations in role-playing situations. The student applies strategies in sales communications, customer oriented selling, and sales management.

Prerequisite(s): MKTG1106

MKTG 2214 E-Marketing (3 credits) This course examines emerging electronic technologies and their impact on a firm's marketing strategy. Emphasis is placed on trends in e-marketing as well as unique opportunities and challenges faced in the electronic environment. Students apply components of the marketing mix to an electronic marketing strategy.

Prerequisite(s): None

MKTG 2220 Human Resource Management (3 credits) The purpose of this course is to acquaint the student with the importance of human resource management in contributing to the achievement of an organization's objectives. The content addresses techniques and legal aspects of recruiting, hiring, firing, promotion, documentation, evaluation, and other areas essential to the personnel function.

Prerequisite(s): None

MKTG 2232 Marketing Management (3 credits) This course focuses on the development of strategic marketing skills needed in marketing and management in business. Training covers the cycle of marketing for customer acquisition, care and relationship building integrated with strategic business operation processes. Marketing strategies include: target marketing, market research, product/service mix, promotional methods, distribution systems, and pricing methods.

Prerequisite(s): None

MKTG 2235 Marketing & Operations Management (3 credits) The course focuses on the development of marketing and business operation skills needed in managing a business. Training covers the cycle of marketing skills for customer acquisition, care and relationship building integrated with strategic business operation processes. Marketing strategies include: target marketing, product/service mix, promotional methods, distribution systems, and pricing methods. Business Operations include: product and service processes, work flow processes, risk management, and strategies to develop effective and efficient business systems.

MKTG 2236 Small Business Management (3 credits) This course provides a summary of many of the major issues faced by anyone starting a small business.

Prerequisite(s): None

MKTG 2290 Supervised Occup Exp I (3 credits) For this course, projects, reports, and discussions are coordinated to relate to the student's employment situation. Employment in an approved wholesale/retail marketing occupation, training verification, and evaluation are required of each student.

Prerequisites: Advisor approval.

MKTG 2298 Business Plan Development (3 credits) This course covers the steps in preparing a business plan. Each student creates a business plan based on a personal business selection.

Prerequisite(s): None

NSCI 2203 Environmental Science (4 credits) Meets MnTC goal areas 3, 10. This introductory course addresses the dynamic equilibrium of our environment. The design of the course is to teach the science behind the environmental issues on our planet. This will allow for discussion and analysis of current topics related to those issues. Lecture and lab.

Prerequisites: None

PHIL 1010 Intro to Philosophy (3 credits) Meets MnTC Goal: 6 This course is designed as a "topics-based" introduction to philosophy. This means that, instead of working through the history of philosophy focusing on great historical figures and their views on different topics, we will focus on great philosophical topics and look at what historical and contemporary writers have said about them. Topics to be addressed will include the existence of God, the relation between the mind and the body, human freedom, and the foundations of morality.

Prerequisite(s): None

PHIL 1201 Ethics (3 credits) Meets MnTC Goal Area(s):6,9 This course presents and examines moral theories, and applies these theories in contemporary moral issues such as articulate reproduction, abortion, sexual equality, racism, privacy, euthanasia, the environment, etc. The course develops one's sense of ethical and civic responsibility by developing the capacity to identify, discuss, and reflect upon the ethical dimensions of political, social, and personal life and to understand the ways in which they can exercise responsible and productive citizenship. This course also assists in developing critical thinking skills by developing thinkers who are able to unify factual, creative, rational, and value-sensitive modes of thought.

Prerequisite(s): None

PHIL 2210 Bioethical Issues in Contemporary Society (3 credits) Meets MnTC Goal Area(s):6,9 This course is an introduction to bioethical issues that arise in the contemporary practice of healthcare, and which are central to understanding healthcare in contemporary society. In addition to developing a basic understanding of standard moral theories, issues that rise with American culture for patients, providers, and planners of health care are examined. Examples of such issues include, but are not limited to, abortion, euthanasia, patient rights, informed consent, health care distribution and reform, genetic testing and research, and cloning.

Prerequisite(s): None

PHYS 1110 Physics (3 credits) Fundamental law of mechanics, fluids, temperature, gas laws, electricity, wave motion, origins of modern physics, radioactivity.

Prerequisite: None

PLHE 1000 Introduction to Plumbing/HVAC (1 credit) This course provides the student with an introduction to the history and structure of the plumbing and HVAC industry. Topics include history of plumbing and heating, development and structure of the piping/HVAC industry, plumbing, pipefitting and heating terms and identification of various plumbing and heating systems.

Prerequisite(s): None

PLHE 1015 Plumbing Technical Drawing (3 credits) This course provides the student with the technical understanding and skills in blueprint reading needed by the plumbing industry. Topics include drawing interpretation, isometric sketches of piping/duct installation and drafting mechanical plans for residential construction.

Prerequisite(s): None

PLHE 1055 Plumbing Code Interpretation (3 credits) This course provides the student with an introduction to the Minnesota State Plumbing Code as it relates to basic plumbing principles, materials, installation limitations, and licensing laws.

Prerequisite(s): None

PLHE 1085 Piping System Fabrication I (3 credits) This course covers piping/sheet metal equipment, tools, materials, and layout procedures for the beginner to construct and install piping/ductwork systems. Design fundamentals will be interpreted and installation procedures will be practiced in lab activities in this course.

Prerequisite(s): None

PLHE 1091 Plumbing Design and Installation I (3 credits) This course covers practical experience in the installation of sewers and drain piping by laying out piping trenches, excavating trenches, using a builder's level to establish grade and elevations of the piping, and backfilling trenches in a safe and efficient manner.

Prerequisite(s): None

PLHE 1105 Plumbing Repair and Service Technology (3 credits) This course provides the student with practical experiences in repair, maintenance, and servicing of plumbing fixtures, drainage, waste and vent systems, and water distribution systems.

Prerequisite(s): None

PLHE 1145 Piping Systems Fabrication II (3 credits) This course provides the student with advanced experience in the installation of drain, waste, and vent piping systems, residential plumbing fixtures and appliances.

Prerequisite(s): None

PLHE 1147 Plumbing Design and Installation II (3 credits) This course covers practical experience in the installation of sewers and drain piping by laying out piping trenches, excavating trenches, using a builder's level to establish grade and elevations of the piping, and backfilling trenches in a safe and efficient manner.

Prerequisite(s): None

PLHE 1190 Plumbing Certifications (3 credits) This course provides the advanced plumbing/HVAC student a review of all aspects related to the design of drainage, waste, venting and water distribution systems. Focus and emphasis is placed on preparing the student for advanced credentialing as plumbing and HVAC craftsman. Specific industry related certifications will be identified throughout this course thus allowing the student the necessary plumbing/HVAC employment skills.

Prerequisite(s): None

PLHE 1193 Residential Plumbing Advanced Design (3 credits) This course is designed for the plumbing student to gain valuable work experience in the plumbing and pipefitting field in conjunction with an industry placement. The assigned project must have the endorsement of the instructor. Only valid, projects in the field of plumbing/pipefitting or in a closely related occupation shall be considered.

Prerequisite(s): None

PLHE 2016 HVAC Technical Drawings/Prints (2 credits) This course is designed to give the student a basic understanding of blueprints and technical drawing used in the HVAC field. The course begins with the basics of simple isometric drawings to the advanced design and layout of complete HVAC systems. The course includes guest lectures from both architects and mechanical engineers. Other areas of interest will focus on are building plans, shop drawings, hydronic floor heat layouts, and the basics of bidding a job.

Prerequisite(s): None

PLHE 2032 Air Conditioning, Heat Pump, Refrigeration and Recovery (3 credits) This course is designed to give the student a basic understanding of air conditioning principles. The course begins with the history of refrigeration and progresses to the theory of heat, cooling and heat transfer. The course will also explore the many uses of refrigeration (including heating and cooling) from residential to commercial/industrial applications. This course will prepare the student to take the federally mandated test to allow a person to handle refrigerant. This class will prepare the student to pass the core requirements at all levels through universal technician. This course is the old PLHE 2031 and PLHE 2065 combined.

Prerequisite(s): None

PLHE 2076 Forced Air Systems Theory (4 credits) This course covers gas, fuel oil and electric heating equipment, primarily furnaces. Emphasis is placed on understanding the theory of operation and design of ductwork that exist within an HVAC system. Basics of indoor air quality (IAQ) and its effects on building inhabitants will be covered. The student will gain a thorough understanding of the relationship between IAQ and the theory of forced air heating systems. This course is the old PLHE 2075 and PLHE 2045 combined.

Prerequisite: None

PLHE 2085 Ventilation Systems (2 credits) TBD

PLHE 2090 Intro to Commercial/Industrial Equipment (1 credit) This course is designed to give the student a general background in non residential equipment and an understanding of how the commercial/industrial systems and their controls differ from residential systems. Commercial ventilation requirements and the common methods of meeting these requirements will also be discussed.

Prerequisite(s): None

PLHE 2095 HVAC Design and Installation (3 credits) This course covers installation of forced air heating systems in a hands-on situation. Emphasis is placed on understanding the theory of operation and design and applying the theory learned in previous classroom settings. The students will be installing a furnace and ductwork system from building the supply and return air plenums for the furnace to final testing and operation of the furnace system.

Prerequisite(s): 1000 level courses

PLHE 2135 HVAC Code Interpretation (2 credits) This course covers the National Fuel Gas Code Book and its requirements for the major and minor fuels used to heat buildings and the national venting code requirements for buildings. The International Mechanical Code and the Minnesota Energy Code and their applicable requirements will also be discussed. Emphasis is placed on understanding the scope and purpose of the codes and how they relate to health and life safety issues.

Prerequisite(s): None

PLHE 2140 Optimizing HVAC Control Systems (4 credits) This course is designed to give the student an extensive understanding of forced air and hydronic heating controls. Instruction will begin with the electrical safety and the basics of electricity, then progress into electronic controls. Both low voltage and high voltage circuits will be addressed.

Prerequisite(s): PLHE2031, 2075, 2095

PLHE 2146 HVAC Design II (4 credits) This course covers the design and installation of advanced forced air heating systems in a hands on situation. Emphasis is placed on understanding the theory of the relationship between the operational and design aspects as they apply to residential forced air HVAC systems. This course is designed to give the student an understanding of industry standards as they relate to the design requirements of residential heat loss. The student will have an understanding of sheet metal tools, sheet metal layout and commons fittings used in duct design and layout. The student will have a thorough understanding of all aspects needed to properly size and select equipment, ductwork, and other components of an HVAC system. This is the old PLHE 2145 and PLHE 2060 combined.

Prerequisite(s): None

PLHE 2151 Hydronic Design and Controls (3 credits) This course is designed to give the student an extensive understanding a hydronic heating. It will include sections on heat theory, types of boilers, radiators, piping systems, floor heat and several other areas that are unique to hot water heat.

Prerequisite(s): PLHE1085, 2060

PLHE 2160 Air Conditioning, Refrigeration and Heat Pump Controls (3 credits) This course is designed to give the student a thorough understanding of air conditioning principals and controls. The course begins with a refresher on the refrigeration process and progresses to controls systems and troubleshooting. The student will progress from the controlled environment of the lab with system trainers and progress to operational residential and light commercial equipment.

Prerequisite(s): None

PLHE 2165 Thermal Solar Design Technology (3 credits) This course covers the essentials of residential solar system design, installation, troubleshooting and operation procedures for residential water, space heating and pool heating. The emphasis is on water/space heating. This course targets the responsibilities of installers, contractors, building officials, decision makers, government organizations, those who install solar water heating systems and interested parties.

Prerequisite(s): None

PLHE 2195 HVAC Advanced Design (3 credits) This course is designed to enable the student to incorporate all the theory they have learned in all previous classes and implement it into a complete functional project. The student will design, layout, build, install, and calibrate a complete HVAC system from the ground up.

Prerequisite(s): None

PLHE 2800 Boilers License Prep (1 credit)

PNSG 1100 Foundations (5 credits) This course starts by assisting the student in developing life management skills to support success in nursing school. Learning style, study skills, and time management practices are emphasized. The course introduces medical terminology and fundamental nursing concepts and theory which underlie basic assessment and nursing skills. Nursing process is introduced as a framework for competent clinical decision-making. Fundamentals of safety are taught as it applies to evidence-based, client-centered care. The student will demonstrate critical thinking, decision making, and priority setting skills essential to success assessment and application of nursing skills in the laboratory setting. The student will learn personal and professional behaviors that support a professional caring relationship with clients and colleagues is explored.

Prerequisites: Admission to the Program, BIOL 2252, ENGL 1111, completion of Nursing Assistant course (within five years of start date)

Co-requisites: PNSG 1150, PNSG 1180, PNSG 1185, PSYC 2201

PNSG 1110 Care of Clients Across the Lifespan I (4 credits) This course introduces fundamental nursing concepts as they relate to acute and chronic medical conditions across the lifespan. Nursing concepts, nursing process and clinical decision-making skills are applied to patient care exemplars to facilitate learning. Principles of evidence-based practice, pathophysiology, pharmacology, and nutrition are introduced into each topic area.

Prerequisite(s): Admission to the Program, BIOL 2252, ENGL 1111

Corequisite(s): BIOL 2254, PNSG 1100, 1120, 1125

PNSG 1120 Pharmacology (2 credits) This course presents the basic principles of pharmaceuticals. Including pharmacokinetics, pharmacodynamics, common adverse/side effects, and contraindications to drug use.

Emphasizing drug classifications and nursing care related to the safe administration of medications across the life span.

Prerequisites: Admission into the Program, BIOL 2252, ENGL 1111, completion of Nursing Assistant course (within five years of start date)

Co-requisites: PNSG 1100, PNSG 1125, PSNG 1110, BIOL 2254

PNSG 1125 Clinical I (2 credits) Provides the student an opportunity to apply nursing judgment using the nursing process to implement safe, patient-centered care. This includes assessing, collecting data, implementing skills, documenting findings and reinforcing teaching plans for patients. Developing communication and customer service skills; working with individual patients, families, and team members.

Prerequisites: Admission to the Program, BIOL 2252, ENGL 1111, completion of Nursing Assistant course (within five years of start date)

Co-requisites: PNSG 1100, PNSG 1120, PSNG 1110, BIOL 2254

PNSG 1150 Care of Clients Across the Lifespan II (4 credits) This course expands the application of nursing concepts as they inter-relate to the safe, holistic nursing care management of acute and chronic medical conditions across the lifespan.

Integrated nursing concept exemplars for complex clients with comorbidities will be covered. Principles of evidence-based practice, pathophysiology, pharmacology, and nutrition are integrated into each topic area.

Prerequisite(s): PNSG1100, 1110, 1120, 1125

Co-requisite(s): PNSG1160, 1180, 1185, PSYC2201

PNSG 1160 Nursing Care of Women and Children (2 credits) This course explores human reproduction, pregnancy, and fetal development. Prenatal assessment and care during pregnancy including complications of pregnancy. Nursing care during labor and delivery including complications. Post-partum care of mother, infant, and family. Growth, development, and health promotion of infant through adolescence. Pediatric concerns, considerations, and deviations in pediatric health.

Prerequisites: PNSG 1100, 1110, 1120, 1125

Co-requisites: PNSG 1150, PNSG 1180, PNSG 1185, PSYC 2201

PNSG 1180 Psychosocial Nursing (2 credits) Psychosocial nursing care focuses on the care of patients with psychiatric and behavioral disorders. Emphasis is placed on common psychiatric and behavioral disorders as well as promoting and maintaining the mental health of individuals. TOPICS INCLUDE: Role and standards of practice for mental health nursing, therapeutic communication skills when working with psychiatric and behavioral disorders, therapeutic modalities including pharmacotherapeutics, anxiety disorders, mood disorders, personality disorders, psychotic disorders, chemical impairment and substance abuse, abuse and violence.

Prerequisite(s): PNSG1100, 1110, 1120, 1125

Co-requisite(s): PNSG1150, 1160, 1185, PSYC2201

PNSG 1185 Transition to Practice/PN Clinical II (5 credits) This course will expand on the concepts of client-centered care, safety, teamwork, collaboration, informatics, and professionalism for the care of individual clients. Applying fundamental nursing concepts, nursing process and nursing skills while promoting wellness. Caring for clients with acute and chronic conditions in various settings. Facilitating student transition to the role of the practical nurse. Examining personal and professional integrity, standards of nursing practice, state nurse practice acts, and nursing codes of ethics. Demonstrating behaviors that support a professional caring relationship with clients and colleagues.

Prerequisites: PNSG 1100, PNSG 1110, PNSG1120, PNSG1125

Co-requisites: PNSG 1150, 1160, 1180, PSYC 2201

PSYC 1105 General Psychology (3 credits) Meets MnTC Goal Area(s):5 This course is an introduction to basic principles and theories of human behavior and mental processes. It will cover the history and contemporary research in the field. The course will also examine the biological, psychological, and social aspects of human interaction with self and environment.

Prerequisite(s): ENGL0100 or appropriate assessment score.

PSYC 2201 Developmental Psychology (3 credits) Meets MnTC Goal Area(s):5 This course is an introduction to the psychological development of the individual using a lifespan approach from conception through death. The student will explore the influences of biological, cognitive, and psychosocial factors that influence the development of a pattern of change

throughout a person's life.

Prerequisite(s): ENGL0100 or appropriate assessment score.

PSYC 2220 Abnormal Psychology (3 credits) Meets MnTC Goal Area(s):5 This course provides an examination of major personality maladjustment and disorganization with primary emphasis on causes, diagnostic criteria, and treatment approaches. It includes historical and theoretical approaches, as well as an examination of related contemporary issues. This is a general education course that is appropriate for all students interested in examining and having a better understanding of psychological abnormalities such as personality disorders, disorders related to stress and substance abuse, and other brain-related and/or cognitive impairments. Prerequisite(s): ENGL0100 or appropriate assessment score.

PSYC 2250 Social Psychology (3 credits) Meets MnTC Goal: 5 This course examines individuals' behavior in a social context. Topics include social roles, gender roles, cultural influence on behavior, attitudes, prejudice, discrimination, aggression, group processes and group behaviors. The influences and impact of conformity, obedience to authority, groupthink, the bystander effect, and social loafing, as well as love and friendship are also explored.

Prerequisite(s): ENGL0100 or appropriate assessment score.

SGNL 1100 American Sign Language (ASL) I (4 credits) Meets MnTC Goal Area(s): 8; Prerequisite(s): None. This course is an introduction to the basic skills in production and comprehension of American Sign Language (ASL). It includes the manual alphabet and numbers, develops conversational ability, culturally appropriate behaviors and exposes students to ASL grammar.

SGNL 2100 American Sign Language (ASL) II (4 credits) Meets MnTC Goal Area(s): 8. The course develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Upon completion, students will have increased fluency and accuracy in fingerspelling and numbers.

Prerequisite(s) SGNL1100

SOCI 1110 Intro to Sociology (3 credits) Meets MnTC Goal Area(s):5,8 . This course is intended to introduce students to the sociological perspective as a part of understanding the larger society and themselves. Topics reviewed include basic concepts of sociology, the process of socialization and social change, deviant behavior, social inequalities of various groups, sociological theories, and major social institutions.

Prerequisite(s): None

SPCH 1110 Intro to Public Speaking (3 credits) Meets MnTC Goal Area(s):1 Prerequisite(s): None This course focuses on three areas: providing an overview of the process of communication and public speaking, developing and understanding of the principles needed for speech preparation, and application of these principles in preparing and delivering various types of speeches.

Prerequisite(s): ENGL0100 or appropriate assessment score.

SPCH 1120 Interpersonal Communications (2 credits) Meets MnTC Goal Area(s):1 Prerequisite(s): None This course will focus on helping the student improve their ability to communicate effectively in one-on-one and small group encounters. This course examines small group communication through the aspects of small group theory, interpersonal behavior, group dynamics, listening skills, conflict, leadership, decision-making, and stress, problem solving, and crisis management. Role playing experience, reflection, and analysis of interactions are the key components to growth and learning. This course will provide students with tools to navigate through limit setting/inappropriate behavior and crisis situations.

SSCI 1104 Human Relations (3 credits) This course is designed to help the student gain an awareness of and improve upon human relationships especially appropriate to the workplace. This course is a study of human relations as it relates to an employee's relationship with him/herself, co-workers, supervisors, and customers. Emphasis will be placed on team building, sexual harassment, and cultural diversity in the workplace.

Prerequisite(s): ENGL 0100 or appropriate placement score

SUPL 1104 Intro to Business (3 credits) This course provides students with an "insider's" view of the concepts and processes involved in business and business operation. The course provides a comprehensive view of the contemporary business environment from the internal functions of a business to the challenges of business on an international scale.

Prerequisite(s): None

SUPL 1108 Lead & Facilitate Teams (3 credits) The course will address the role of supervisor, manager, and leader as a leader and facilitator of work teams. Topics will include planning work teams, creating effective team interaction, identifying characteristics of successful teams, and demonstrating skills and behaviors of both team leader and team member.

Prerequisite(s): None

SUPL 1110 Budget & Financial Management (3 credits) This course is designed for non-financial personnel who need to understand the basic theories of finance and apply them to practical business decisions. Key topics include: understanding financial statements which is learning the foundations of accounting, understanding the balance sheet, the income statement, and the statement of cash flows. In addition, students will perform financial statement analysis using a variety of techniques such as horizontal, vertical, and cash flow analysis and liquidity, coverage, profitability, market and employee ratios.

Prerequisite: None

SUPL 1120 Supervisory Leadership (3 credits) The methods and techniques of leadership and supervision and their applications are emphasized in this course. The content covers such topics as delegation, motivation, training, orienting, evaluating, and effectively increasing productivity.

Prerequisite(s): None

SUPL 2238 Quality Planning & Control (3 credits) This is an introductory course surveying quality related topics from both qualitative and quantitative point of views. The course is structured to address the quality system, the management system, and the technical system approaches to quality planning and management. Topics related to people, leadership, application, implementation, data collection, and analysis and quality standards are included in this course.

Prerequisite(s): None

SUPL 2260 Project Management (3 credits) This course will teach the fundamentals of project management. Major areas will be project initiation, tracking, reporting, and closure. At the completion of this course, participants will be able to apply their skills to the management of projects in different work environments.

Prerequisite(s): None