NORTHLAND
COMMUNITY & TECHNICAL COLLEGE

2018 – 2019

College Catalog

The publishing date of this catalog is July 2018; it covers academic year 2018-2019.

MINNESOTA STATE

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LETTER FROM THE PRESIDENT

Welcome to Northland Community & Technical College. As a student at NCTC, you will be pleased to know that our priority at Northland is to serve ALL of our students without exception. You are entitled to an outstanding educational experience and you will soon discover that student learning is our passion and we are committed to help you achieve your personal goals. Whether your time with us is for pursuing a diploma, certificate, degree, online courses or a transfer program, we are committed to making certain your experience is high quality, engaging and filled with the academic rigor. You are assured to walk away with the knowledge, skills and ability necessary for further academic pursuit or success in your career.

Please take the time to explore our website and discover the many opportunities and services that we offer at our college and I encourage you to contact us so we can guide you through your first steps in your higher education journey. We have a wide array of technical resources to assist you and want you to take full advantage of all of the amenities afforded to you as a student of NCTC. We look forward to meeting you and we are confident that your dreams and aspirations will soon become a reality.

Sincerely,
Dr. Dennis Bona
President
Northland Community & Technical College

NCTC MISSION STATEMENT

Northland Community and Technical College is dedicated to creating a quality learning environment for all learners through partnerships with students, communities, businesses, and other educational institutions.

NCTC VISION STATEMENT

Northland Community and Technical College will be widely recognized as a progressive leader in community and technical college education, responsive to the needs of our learners through the use of partnerships, innovation, and technology.

NORTHLAND…

…is committed to a policy of nondiscrimination in employment and education opportunity. No person shall be discriminated against in the terms and conditions of employment, personnel practices, or access to and participation in, programs, services, and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, gender identity, gender expression, or membership or activity in a local commission as defined by law. Harassment of an individual or group on the basis of race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, gender identity, gender expression, or

membership or activity in a local commission has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, Northland shall work to eliminate violence in all its forms. Physical contact by designated college staff members may be appropriate if necessary to avoid physical harm to persons or property.

…reserves the right to cancel, postpone, and reschedule course offerings.

…provides assistance for students experiencing academic difficulty or for those needing accommodations for disabilities. Services for students with disabilities include: advocacy, counseling, academic assistance, and referral information. Lack of English skills will not be a barrier to admissions and participation. All appropriate and necessary services shall be provided for prospective or current students needing accommodations for disabilities including this document in an alternative format by contacting Linnea Schluessler at (218)683-8560 or 1-800-959-6282 ext. 8560.

POLICY STATEMENT

The handbook and website contain policies, procedures, and information necessary for the operation of Northland Community and Technical College (NCTC). Policies and procedures have been reviewed and approved by NCTC. It is the intent of the college that these policies and procedures respect individual student identity, while being applied consistently and uniformly. These policies and procedures were developed according to the most recent rules, regulations, and data available at the time of publication; however, NCTC's policies and procedures are subject to revision by state and federal agencies which are beyond the jurisdiction of the college. Changes in rules, regulations, policies, and procedures made by higher levels and agencies of government supersede college policy. All policies will be reviewed for possible revision on an annual basis.

DATA DISCLAIMER: Data contained in the Northland Community and Technical College (NCTC) catalog or student handbook accurately reflects information at the time of publication; however, NCTC reserves the right to make changes at any time deemed necessary.

East Grand Forks Campus
2022 Central Avenue NE
East Grand Forks, MN 56721

Thief River Falls Campus
1101 Highway One East
Thief River Falls, MN 56701

Aerospace Site
13892 Airport Drive
Thief River Falls, MN 56701

Roseau Site
1212 Center St E. Suite 200
Roseau, MN 56751

Phone: 1-800-959-6282
www.northlandcollege.edu

ABOUT THE COLLEGE

Northland Community & Technical College is a comprehensive community and technical college with campuses in East Grand Forks and Thief River Falls, Minnesota. Northland offers certificates, diplomas, transfer courses, and Associate of Arts (A.A.), Associate of Science (A.S.), and Associate of Applied Science (A.A.S.) degrees in more than 30 areas of study, as well as workforce training and continuing education programs.

Northland is a member of the Minnesota State Colleges and Universities System and is accredited by the Higher Learning Commission.

College Colors **Navy & Scarlet**

College Mascot **Pioneers**

College History

East Grand Forks Campus: The history of Northland Community and Technical College's East Grand Forks campus dates back to December 1971, when the local school district was designated for an Area Vocational Technical Institute (AVTI). The first classes of the East Grand Forks AVTI were offered in January 1973 in rented facilities. The present facility opened in April 1975.

Northland – EGF grew with expansion and partnerships. The name of the college changed several times throughout its history. One of its most prominent consolidations was as Northwest Technical College from 1992 – 2003.

In July 2003, the East Grand Forks Campus of Northwest Technical College merged with Northland Community and Technical College of Thief River Falls to become a fully comprehensive college.

Thief River Falls Campus: The history of Northland Community and Technical College's Thief River Falls campus dates back to 1949, when the Thief River Falls Area Vocation Institute opened. A few years later in 1965, the Thief River Falls State junior College also held its first classes.

The names of the two colleges changed several time throughout its history. One of the most prominent changes occurred in July of 1995 when the two colleges merged to create Northland Community and Technical College.

In July of 2003, Northland in Thief River Falls merged with the East Grand Forks campus of Northwest Technical College to become a two-campus comprehensive college.

The College Communities

East Grand Forks Community: In the heart of the Red River Valley is East Grand Forks, a lively, bustling community surrounded by Upper Midwest farm country which produces an abundance of grains, sugar beets, and potatoes each year.

Located above the juncture of the Red Lake River and the Red River of the North, East Grand Forks is known for its excellent catfish fishing, boating, and other recreational opportunities. Recreation is also available at many state park systems within a one-hour drive. Downtown East Grand Forks features the historic Whitey's, Blue Moose, Cabela's and other new businesses that serve the community.

East Grand Forks' neighbor across the Red River is Grand Forks, North Dakota. Grand Forks is the home of Grand Forks Air Force Base, Alerus Center, Ralph Engelstad Arena, and the University of North Dakota. There is a Grand Cities population of over 80,000. Grand Forks International Airport is five miles away.

Thief River Falls Community: Until 1904, an Ojibwe village of 40 families was located where the Thief River and Red Lake River meet. This is the current site of the Thief River Falls campus.

Today, Thief River Falls is the hub of northwestern Minnesota. The area abounds with a variety of activities. Thief River Falls is located on the Pine to Prairie Birding Trail and only 21 miles from the largest wildlife refuge in Minnesota. Whatever your interest – biking, camping, golfing, snowmobiling, skiing, river fishing, tubing, hunting, or just plain relaxing – it can be found in and around Thief River Falls.

The small-town atmosphere provides safe, friendly neighborhoods, affordable housing, excellent medical care, as well as a variety of shopping, restaurants, hotels, and employment opportunities for students.

Thief River Falls is the regional center for manufacturing, healthcare, retail and the home of the Ralph Engelstad Arena – Thief River Falls.

Visiting Northland

College is a time for you to soar and explore. Your college experience lasts a lifetime, giving you the opportunity to learn, make life-long friendships, and prepare yourself for the future.

At Northland Community and Technical College, you'll find opportunities to excel, to actively participate in classroom discussion, to express your thoughts, and to communicate your ideas. You will experience learning through hands-on activities, internships, and work experience. You will discover new ways of thinking and gain a global perspective. You will achieve things that, up until now, you could only imagine.

Northland invites prospective students, their parents and friends to visit the campuses. The Student Services Office will arrange for you to tour the campus and visit with faculty members in the program or activity in which you are interested. Counselors and advisors will be available to answer your questions about enrollment.

Schedule your campus tour today online at www.northlandcollege.edu/visit/ or by phone at 218-683-8552.

Accreditation

Accreditation is an important credential to look for when choosing a college or university. Accreditation is an assurance to students and the public that an institution meets or exceeds standards for quality of faulty, curriculum, learner services, and fiscal stability.

Northland Community and Technical College is accredited by:

The Higher Learning Commission

230 South LaSalle Street, Suite 7-500

Chicago, IL 60604

(800) 621-7440

www.hlcommission.org

Northland Community & Technical College Foundation

The Northland Community & Technical College Foundation's mission is to support the college by providing opportunities for contributor s to invest in and enhance the educational experience of Northland's students. The Foundation awards over $160,000 in scholarships annually. Scholarships range in value from $50 to $4,000, depending on contributions or annual growth in the individual funds. Eligibility and criteria for scholarships varies and is often established by the donors. Several scholarships were established as endowments in honor of, or in memory of individuals who have had a special commitment to the College or community. The Foundation invites anyone interested in establishing an endowment or scholarship to contact the Foundation office.

New students planning to attend Northland may apply for scholarships by completing a *Northland Foundation New Student Scholarship application*, available in January, to be eligible for scholarships awarded prior to fall semester. **Returning students** may apply for scholarships by completing a *Northland Foundation Current Student Scholarship application*, available at the start of each fall semester, to be eligible for scholarships awarded during spring semester. Students must complete applications in full and meet the deadlines established for each application to be considered for a scholarship.

Applications are available of the website: northlandcollege.edu/admissions/financial-aid/scholarships/ or on campus.

A complete listing of scholarships is available on the website. Events and programs sponsored by the Foundation as well as opportunities for alumni to keep in contact with the College are also available.

Anyone interested in establishing a scholarship fund, contributing to an existing fund, or serving on the Board of Directors or a Foundation committee may contact the Foundation Office at 218-683-8616 or 800-959-6282, or by email, www.NCTCfoundation.com.

Program Accreditation

Program	Approved By	Address	Phone
Architectural Technology	Minnesota Department of Administration Building Codes and Standards Division	121 7th Place E. Suite 408 St. Paul, MN 55101	(651) 297-3600
Automotive Service Technology	National Automotive Technicians Education Foundation (NATEF) and the National Institute for Automotive Service Excellence (ASE)	101 Blue Seal Drive S.E. Suite 101 Leesburg, Virginia 20175	(703) 669-6600
Aviation Maintenance Technology	Federal Aviation Administration (FAA)	800 Independence Avenue S.W. Room 908 Washington, DC 20591	(202) 267-3883
Construction Electricity	Approved by the Minnesota State Board of Electricity as one year of credit toward students' journeyman's license.	443 Lafayette Road North St. Paul, MN 55104-2993 www.electricity.state.mn.us	(651) 284-5064
Criminal Justice	Minnesota Board of Peace Officer Standards and Training Board	1600 University Ave Suite 200 St. Paul, MN 55104	(651) 643-3060
Nursing - Associate	Minnesota Board of Nursing Accreditation Commission for Education in Nursing	2829 University Avenue SE Suite 500 Minneapolis, MN 55414 3343 Peachtree Road NE Suite 850 Atlanta, GA 30326	(612) 617-2270
Nursing - Practical	Minnesota Board of Nursing	2829 University Avenue SE Suite 500 Minneapolis, MN 55414	(612) 617-2270
Occupational Therapy Assistant	Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)	4720 Montgomery Lane Suite 200 Bethesda, MD 20814-3449	(301) 652-2682

Paramedic	MN EMS Regulatory Board Commission on Accreditation of Allied Health Education Programs in cooperation with the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions	MN EMS RB 2829 University Ave. SE Suite 310 Minneapolis, MN 55414-3222 CAAHEP 25400 US Highway 19 North Suite 158 Clearwater, FL 33763 CoAEMSP Suite 111-312 8301 Lakeview Parkway Rowlett, TX 75088	(612) 627-6000 (817) 283-9403 (727) 210-2354
Pharmacy Technology	American Society of Health Systems Pharmacists	7272 Wisconsin Ave Bethesda, MD 20814	(301) 657-3000
Physical Therapist Assistant	Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association	1111 North Fairfax St Alexandria, VA 22314	(703) 706-3245
Radiologic Technology	Joint Review Committee on Education in Radiologic Technology	20 North Wacker Drive Suite 900 Chicago, IL 60606-2901	(312) 704-5300
Respiratory Therapist	Commission on Accreditation for Respiratory Care	1248 Harwood Road Bedford, TX 76021-4244	(817) 283-2835
Surgical Technology	Commission on Accreditation of Allied Health Education Programs in cooperation with the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting	1361 Park Street Clearwater, FL 33756	(727) 210-2350

Directory of Programs (Alphabetically)

Page	Program Title	Degree	Cr.	EGF	TRF	Other
16	Accounting	AAS	60	EGF		
17	Accounting Clerk – Microcomputer Applications Emphasis	Diploma	45	EGF		
18	Administrative Assistant	AAS	60	EGF		
19	Administrative Office Specialist	Diploma	33	EGF		
22	Advanced General Agriculture	Certificate	30		TRF	
63	Advanced Rescue	Certificate	18	EGF		
20	Agriculture Education	AS	60		TRF	
23	Animal Science	AAS	60		TRF	
24	Architectural Technology & Design	AAS	69	EGF		
25	Architectural Technology & Design	Diploma	65	EGF		
75	Automation Technologies	Certificate	30			Online
31	Automotive Electronics and Drivability	Certificate	18		TRF	
30	Automotive Engine Repair, Suspension, and Brakes	Certificate	21		TRF	
28	Automotive Service Technology	AAS	73		TRF	
29	Automotive Service Technology	Diploma	64		TRF	
32	Auto Body Collision Technology	AAS	71		TRF	
33	Auto Body Collision Technology	Diploma	64		TRF	
38	Aviation Maintenance Technician Plus	Certificate	16		TRF	
36	Aviation Maintenance Technology	AAS	100		TRF	
37	Aviation Maintenance Technology	Diploma	88		TRF	
42	Business	AS	60	EGF	TRF	Online
43	Carpentry – Residential	Diploma	34	EGF		
74	Certified Production Technician	Certificate	8	EGF	TRF	
47	Cisco Networking	Certificate	14	EGF		
34	Collision & Refinishing Technician	Certificate	30		TRF	
44	Commercial Vehicle Operator	Certificate	18	EGF		
46	Computer & Network Technology	AAS	60	EGF		
27	Computer Aided Design	Certificate	16	EGF	TRF	
48	Construction Electricity	Diploma	74	EGF		
49	Construction Plumbing	Diploma	34	EGF		

52	Criminal Justice – Law Enforcement	Diploma	38		TRF	
53	Criminal Justice – Law Enforcement	Certificate	21		TRF	
50	Criminal Justice – Law Enforcement	AAS	68		TRF	
54	Customer Service	Certificate	16	EGF	TRF	Online
55	Dietetic Technician	AAS	67			Online
107	Digital Marketing	Certificate	24			Online
106	Digital Marketing	AAS	60			Online
56	Early Childhood & Paraprofessional	AS	60	EGF		Online
57	Electronic Technology – Automated Systems	AAS	60		TRF	
58	Farm Operations & Management	Diploma	40	EGF		
59	Firefighter – Paramedic	AAS	74	EGF		
62	Fire Service Preparation	Certificate	18	EGF		
61	Fire Technology	AAS	62	EGF		
21	General Agriculture	Certificate	16		TRF	
67	Geospacial Intelligence Analysis	AAS	60		TRF	Online
64	Health Sciences Broad Field	AS	60	EGF	TRF	Online
66	Heating, Ventilation, & Air Conditioning	Diploma	37	EGF		
65	Heating, Ventilation, & Air Conditioning/Construction Plumbing	AAS	70	EGF		
68	Imagery Analysis	Certificate	30		TRF	Online
26	Intro Architectural Technology & Design	Diploma	31	EGF		
69-72	Liberal Arts	AA	60	EGF	TRF	Online
76	Machine Technology	Certificate	30			Online
73	Manufacturing Process Technology	AAS	60	EGF		
79	Medical Administrative Assistant	AAS	60			Online
82	Medical Coding Specialist	AAS	60			Online
80	Medical Office Specialist	Diploma	45			Online
84	Nursing	AS	64	EGF	TRF	
89	Nursing Assistant	Certificate	3	EGF	TRF	
90	Occupational Therapy Assistant	AAS	72	EGF		
92	Paramedic	AAS	60	EGF		
93	Paramedic	Diploma	48	EGF		
81	Patient Access Specialist	Certificate	27			Online
94	Pharmacy Technology	AAS	60	EGF		

95	Pharmacy Technology	Diploma	36	EGF		
96	Phlebotomy	Certificate	16	EGF		
98	Physical Therapist Assistant	AAS	72	EGF		
87	Practical Nursing	Diploma	44	EGF	TRF	Online
100	Precision Agriculture Equipment Technician	AAS	60		TRF	
77	Production Technologies	Certificate	16			Online
101	Radiologic Technology	AAS	83	EGF		
103	Respiratory Therapist	AAS	78	EGF		
105	Sales, Marketing, & Management	AAS	60	EGF		Online
35	Sheet Metal Repair Technician	Certificate	26		TRF	
40	Small Unmanned Aircraft Systems Field Service Tech	Certificate	30		TRF	
39	Small Unmanned Aircraft System Technician	AAS	60		TRF	
108	Supervisory Leadership	Certificate	18	EGF	TRF	Online
109	Surgical Technology	AAS	60	EGF		
41	Unmanned Aircraft Systems Maintenance Technician	Certificate	30		TRF	
115	Welding Manufacturing Technology	Certificate	17		TRF	
114	Welding Manufacturing Technology	Diploma	31		TRF	
113	Welding Process Technology	Certificate	16		TRF	
112	Welding Process Technology	Diploma	33		TRF	
78	Welding Technology	Certificate	30			Online
111	Welding Technology	Diploma	36	EGF		

Directory of Programs

(By Career Cluster)

Page	Career Cluster/Program Title	Degree	Cr.	EGF	TRF	Other
Agriculture, Food, and Natural Resources						
22	Advanced General Agriculture	Certificate	30		TRF	
20	Agriculture Education	AS	60		TRF	
23	Animal Science	AAS	60		TRF	
58	Farm Operations & Management	Diploma	40	EGF		
21	General Agriculture	Certificate	16		TRF	

100	Precision Agriculture Equipment Technician	AAS	60		TRF	
Architecture and Construction						
24	Architectural Technology & Design	AAS	69	EGF		
25	Architectural Technology & Design	Diploma	65	EGF		
43	Carpentry – Residential	Diploma	34	EGF		
27	Computer Aided Design	Certificate	16	EGF	TRF	
48	Construction Electricity	Diploma	74	EGF		
49	Construction Plumbing	Diploma	34	EGF		
65	Heating, Ventilation, & Air Conditioning/Construction Plumbing	AAS	70	EGF		
66	Heating, Ventilation, & Air Conditioning	Diploma	37	EGF		
26	Intro Architectural Technology & Design	Diploma	31	EGF		
Business Management and Administration						
18	Administrative Assistant	AAS	60	EGF		
19	Administrative Office Specialist	Diploma	33	EGF		
42	Business	AS	60	EGF	TRF	Online
54	Customer Service	Certificate	16	EGF	TRF	Online
108	Supervisory Leadership	Certificate	18	EGF	TRF	Online
Finance						
16	Accounting	AAS	60	EGF		
17	Accounting Clerk – Microcomputer Applications Emphasis	Diploma	45	EGF		
Health Science						
55	Dietetic Technician	AAS	67			Online
64	Health Sciences Broad Field	AS	60	EGF	TRF	Online
79	Medical Administrative Assistant	AAS	60			Online
82	Medical Coding Specialist	AAS	60			Online
80	Medical Office Specialist	Diploma	45			Online
84	Nursing	AS	64	EGF	TRF	
89	Nursing Assistant	Certificate	3	EGF	TRF	
90	Occupational Therapy Assistant	AAS	72	EGF		
81	Patient Access Specialist	Certificate	27			Online
94	Pharmacy Technology	AAS	60	EGF		
95	Pharmacy Technology	Diploma	36	EGF		
96	Phlebotomy	Certificate	16	EGF		

98	Physical Therapist Assistant	AAS	72	EGF		
87	Practical Nursing	Diploma	44	EGF	TRF	Online
101	Radiologic Technology	AAS	83	EGF		
103	Respiratory Therapist	AAS	78	EGF		
109	Surgical Technology	AAS	60	EGF		
Human Services						
56	Early Childhood & Paraprofessional	AS	60	EGF		Online
Information Technology						
47	Cisco Networking	Certificate	14	EGF		
46	Computer & Network Technology	AAS	60	EGF		
Law, Public Safety, Corrections and Security						
63	Advanced Rescue	Certificate	18	EGF		
52	Criminal Justice – Law Enforcement	Diploma	38		TRF	
53	Criminal Justice – Law Enforcement	Certificate	21		TRF	
50	Criminal Justice – Law Enforcement	AAS	68		TRF	
59	Firefighter – Paramedic	AAS	74	EGF		
62	Fire Service Preparation	Certificate	18	EGF		
61	Fire Technology	AAS	62	EGF		
92	Paramedic	AAS	60	EGF		
93	Paramedic	Diploma	48	EGF		
Manufacturing						
74	Certified Production Technician	Certificate	8	EGF	TRF	
57	Electronic Technology – Automated Systems	AAS	60		TRF	
76	Machine Technology	Certificate	30			Online
73	Manufacturing Process Technology	AAS	60	EGF		
77	Production Technologies	Certificate	16			Online
115	Welding Manufacturing Technology	Certificate	17		TRF	
114	Welding Manufacturing Technology	Diploma	31		TRF	
113	Welding Process Technology	Certificate	16		TRF	
112	Welding Process Technology	Diploma	33		TRF	
78	Welding Technology	Certificate	30			Online
111	Welding Technology	Diploma	36	EGF		
Marketing						

107	Digital Marketing	Certificate	24			Online
106	Digital Marketing	AAS	60			Online
105	Sales, Marketing, & Management	AAS	60	EGF		Online
Transportation, Distribution, and Logistics						
31	Automotive Electronics and Drivability	Certificate	18		TRF	
30	Automotive Engine Repair, Suspension, and Brakes	Certificate	21		TRF	
28	Automotive Service Technology	AAS	73		TRF	
29	Automotive Service Technology	Diploma	64		TRF	
32	Auto Body Collision Technology	AAS	71		TRF	
33	Auto Body Collision Technology	Diploma	64		TRF	
38	Aviation Maintenance Technician Plus	Certificate	16		TRF	
36	Aviation Maintenance Technology	AAS	100		TRF	
37	Aviation Maintenance Technology	Diploma	88		TRF	
44	Commercial Vehicle Operator	Certificate	18	EGF		
34	Collision & Refinishing Technician	Certificate	30		TRF	
67	Geospacial Intelligence Analysis	AAS	60		TRF	Online
68	Imagery Analysis	Certificate	30		TRF	Online
35	Sheet Metal Repair Technician	Certificate	26		TRF	
40	Small Unmanned Aircraft Systems Field Service Tech	Certificate	30		TRF	
39	Small Unmanned Aircraft Systems Technician	AAS	60		TRF	
41	Unmanned Aircraft Systems Maintenance Technician	Certificate	30		TRF	

Accounting

Accounting AAS

60 Credits

EGF Campus

Program Description

The Associate in Applied Science (A.A.S.) in Accounting program provides the knowledge and skills necessary to prepare financial statements and reports for a business, including the ability to examine, analyze, interpret, and correct accounting data and records. In addition, training is provided in budget preparation, payroll preparation, and filing of quarterly/yearly state and federal reports. Finally, computerized accounting concepts and applications, as well as spreadsheet concepts and applications, are included in this program.

The required Liberal Arts courses for this program will help to develop personal and professional skills essential for career success especially in the areas of mathematics, economics, and communication.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:
Reading Comprehension: 78
Arithmetic: 50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

AAS – Required Courses

Course #	Course Title	Credits
ACCT 1104	Payroll	3
ACCT 1108	Busn Math/Calculators	3
ACCT 1124	Spreadsheet Concepts	3
ACCT 1128	Computerized Acct I	3
ACCT 2200	Income Tax	3
ACCT 2204	Intermediate Acct I	4
ACCT 2210	Income Tax II	3
ACCT 2214	Intermediate Acct II	4
ACCT 2220	Accounting Capstone	4
BUSN 2218	Legal Environment Busn	3
BUSN 2221	Prin of Accounting I	4
BUSN 2222	Prin of Accounting II	4
CPTR 1104	Intro to Computer Tech	3
CRLT 2103	Job Seeking/Keeping	1
ECON 2202	Macroeconomics	3
ENGL 1111	Composition I	3
MATH 1110	College Algebra	3
PHIL 1102	Intro to Ethics	3
SPCH 1101	Intro to Public Speaking	3
	Total Credits	**60**

Accounting

Accounting Clerk – Microcomputer Applications Emphasis Diploma

45 Credits

EGF Campus

Program Description

The emphasis of this program includes spreadsheets, word processing, and database management applications especially computer skills and job responsibilities of an Accounting Clerk.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:
Reading Comprehension: 78
Arithmetic: 50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
ACCT 1104	Payroll	3
ACCT 1108	Busn Math/Calculators	3
ACCT 1124	Spreadsheet Concepts	3
ACCT 1128	Computerized Acct I	3
ACCT 2200	Income Tax	3
ADMS 1100	Keyboarding I	3
ADMS 1110	Word Processing	3
BUSN 2218	Legal Environment Busn	3
BUSN 2221	Prin of Accounting I	4
BUSN 2222	Prin of Accounting II	4
CPTR 1104	Intro to Computer Tech	3
CPTR 1106	Microcomputer Databases	3
CRLT 2103	Job Seeking/Keeping	1
ACCT 2204	Intermediate Acct I	4
ACCT 2208	Cost Accounting	3
ACCT 2214	Intermediate Acct II	4
ADMS 1114	Desktop Pub/Pres Graph	3
CPTR 1500	Intro Web Concepts	3
SSCI 1101	Human Relations	3
	Technical Electives	6
	Total Credits	**45**

Area of Interest Elective Course Options

Course #	Course Title	Credits
ACCT 2204	Intermediate Acct I	4
ACCT 2208	Cost Accounting	3
ACCT 2214	Intermediate Acct II	4
ADMS 1114	Desktop Pub/Pres Graph	3
CPTR 1500	Intro Web Concepts	3
SSCI 1101	Human Relations	3

Administrative Assistant

Administrative Professional
AAS

60 Credits

EGF Campus

Program Description

This Administrative Professional A.A.S. degree prepares students for employment as office professionals. Today many businesses rely on Administrative Professionals to coordinate and manage offices efficiently and effectively as well as create a positive office atmosphere. Students will develop skills in oral and written communication, office technology, time management, decision-making and problem-solving skills as well as listening and the interpersonal skills needed to be successful in today's business environment. The Administrative Professional A.A.S. program helps students develop the knowledge and skills necessary to preprare for tomorrow's job market.

Program Specific Requirements

All required technical and elective courses must be completed with a grade of C or better as well as maintain a 2.0 GPA overall to graduate.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:
Reading Comprehension: 78
Arithmetic: 50

AAS – Required Courses

Course #	Course Title	Credits
ACCT 1100	Prin of Bookkeeping	3
ACCT 1124	Spreadsheet Concepts	3
ADMS 1100	Keyboarding I	3
ADMS 1102	Keyboarding II	3
ADMS 1110	Word Processing	3
ADMS 1114	Desktop Pub/Pres Graph	3
ADMS 1116	Business Communications	3
ADMS 1121	Business Office Mgmt	3
ADMS 2213	Advanced Office Apps	3
ADMS 2250	Office Technologies	3
CPTR 1104	Intro to Computer Tech	3
CPTR 1106	Microcomputer Databases	3
CPTR 1500	Intro Web Concepts	3
SSCI 1101	Human Relations	3
ENGL 1111	Composition I	3
	G5: History/Social Elec	3
	G6: Human/Fine Arts Elec	3
	G1: Communication Elec	3
	MN Transfer Elective	3
	Technical Elective	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G1:Communication Elective:	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communications	3
	Technical Electives:	
ACCT 1108	Busn Math/Calculators	3
ADMS 2281	Internship (2-4cr)	4
BUSN 2218	Legal Environment Busn	3
BUSN 2221	Prin of Accounting I	4
CPTR 1131	Microcomputer Maintenance	4
MKTG 2120	Supervisory Leadership	3

Administrative Assistant

Administrative Office Specialist Diploma

33 Credits

EGF Campus

Program Description

This program prepares students with a full range of office knowledge and skills to successfully support management in a professional office setting. Students will develop skills in communication, human relations, software applications, office management, bookkeeping, filing, records management, and document processing. Students have the opportunity to advance to the Administrative Professional AAS degree.

Program Specific Requirements

All required technical and elective courses must be completed with a grade of C or better as well as maintain a 2.0 GPA overall to graduate.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:
Reading Comprehension: 78
Arithmetic: 50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

ADMS 1110 Word Processing is offered in an online format in this program course sequence. Check the Distance Education schedule when registering or visit with your advisor.

Required Courses

Course #	Course Title	Credits
ACCT 1100	Prin of Bookkeeping	3
ACCT 1124	Spreadsheet Concepts	3
ADMS 1100	Keyboarding I	3
ADMS 1102	Keyboarding II	3
ADMS 1110	Word Processing	3
ADMS 1116	Business Communications	3
ADMS 1121	Business Office Mgmt	3
ADMS 2250	Office Technologies	3
CPTR 1104	Intro to Computer Tech	3
SSCI 1101	Human Relations	3
ACCT 1108	Busn Math/Calculators	3
ADMS 1114	Desktop Pub/Pres Graph	3
ADMS 2281	Internship (2-4cr)	4
BUSN 2218	Legal Environment Busn	3
CPTR 1106	Microcomputer Databases	3
CPTR 1131	Microcomputer Maintenance	4
CPTR 1500	Intro Web Concepts	3
MKTG 2120	Supervisory Leadership	3
	Technical Elective	3
	Total Credits	**33**

Area of Interest Elective Course Options

Course #	Course Title	Credits
ACCT 1108	Busn Math/Calculators	3
ADMS 1114	Desktop Pub/Pres Graph	3
ADMS 2281	Internship (2-4cr)	4
BUSN 2218	Legal Environment Busn	3
CPTR 1106	Microcomputer Databases	3
CPTR 1131	Microcomputer Maintenance	4
CPTR 1500	Intro Web Concepts	3
MKTG 2120	Supervisory Leadership	3

Agriculture

Agriculture Education AS

60 Credits

TRF Campus

Program Description

Agriculture is an important and multifaceted industry across the globe. The United States and Minnesota are known and on the forefront of teaching our future agriculturists. Agricultural Education is an opportunity to utilize your agricultural skills and talents to discover, engage and teach our future agriculturists. Agriculture Education provides the opportunity to impact lives by educating others about this vital industry and mainstay of our country.

Program Specific Requirements

None.

AS – Required Courses

Course #	Course Title	Credits
AGRG 1100	Intro to Agriculture	3
AGRG 1105	Agribusiness & Records	3
AGRG 1110	Intro to Animal Science	4
AGRG 1115	Intro to Agronomy	4
AGRG 1120	Intro to Food Products	4
AGRG 1500	Careers in Ag Educ	1
AGRG 2500	Early Experience Ag Ed	1
EDUC 2250	Intro to Education	3
PAET 1100	Intro Precision Ag	3
BIOL 1111	Biological Prin I	4
BIOL 1131	Intro to Natural Resource	3
ECON 2201	Microeconomics	3
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
PHIL 1101	Intro to Philosophy	3
PHIL 1102	Intro to Ethics	3
SOCI 1101	Intro to Sociology	3
SPCH 1101	Intro to Public Speaking	3
	G8: Global Perspect Elec	3
	G4: Math/Logical Elective	3
	Total Credits	**60**

G4 Math/Logical Reasoning Electives

Course #	Course Title	Credits
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3

Agriculture

General Agriculture Certificate

16 Credits

TRF Campus

Program Description

Agriculture plays a critical role in the economy and functionality of our world. For decades, agriculture has been associated with just farming. Farming is very crucial however, agriculture is a broadened field that contains 8 career pathways that are all a part of our Agriculture, Food and Natural Resources industries. A career in the agriculture industry requires knowledge in many facets of agricultural systems these include: agribusiness, animal, biotechnology environmental, power, structural and technical, plant, natural resources and food products & processing.

Program Specific Requirements

The following minimum requirements must be completed:

1. All required courses must be completed with a grade of a 2.0 or better to graduate.

2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

3. The college minimum scores for the Accuplacer Assessment test are as follows: Reading Comprehension-78, Arithmetic-50.

Note: Some programs may require assessment scores that exceed the college minimum in Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
AGRG 1100	Intro to Agriculture	3
AGRG 1105	Agribusiness & Records	3
AGRG 1110	Intro to Animal Science	4
PAET 1100	Intro Precision Ag	3
	G4: Math/Logical Elective (Below)	3
	Total Credits	**16**

G4 Math/Logical Reasoning Electives

Course #	Course Title	Credits
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3

Agriculture

Advanced General Agriculture Certificate

30 Credits

TRF Campus

Program Description

Agriculture has become a highly technical field as a career. A career in the agriculture industry requires knowledge in many fields of agriculture such as: Agribusiness, Animal Science, Plant Science, Biotechnology, Food Products and Processing, Environmental Service, Natural Resources, Power, Structural and Technical Systems. The field of agriculture provides endless opportunities for those looking for a challenging and rewarding job. Careers can be found in many areas such as: livestock nutrition, breeding and management, sales, lending, leadership, education, machinery and equipment management, crops, engineering, genetics, crop protection products, plant food, renewable energies, GPS/GIS, sustainable agriculture, food processing and marketing.

Program Specific Requirements

The following minimum requirements must be completed:

1. All required courses must be completed with a grade of a 2.0 or better to graduate.

2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

3. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
AGRG 1100	Intro to Agriculture	3
AGRG 1105	Agribusiness & Records	3
AGRG 1110	Intro to Animal Science	4
AGRG 1115	Intro to Agronomy	4
AGRG 1120	Intro to Food Products	4
PAET 1100	Intro Precision Ag	3
BIOL 1131	Intro to Natural Resource	3
ENGL 1111	Composition I	3
	G4: Math/Logical Elective (Below)	3
	Total Credits	**30**

G4 Math/Logical Reasoning Electives

Course #	Course Title	Credits
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3

Animal Science

Animal Science AAS

60 Credits

TRF Campus

Program Description

The Animal Science AAS Degree allows students to explore the field of animal science with emphasis on livestock animals. Technological advances in the animal sciences have contributed to a safe, healthy, abundant, & inexpensive food supply.

Program Specific Requirements

None.

AAS – Required Courses

Course #	Course Title	Credits
AGRG 1100	Intro to Agriculture	3
AGRG 1105	Agribusiness & Records	3
AGRG 1110	Intro to Animal Science	4
AGRG 1115	Intro to Agronomy	4
AGRG 1120	Intro to Food Products	4
ANSC 1200	Animal Evaluation	1
ANSC 2200	Animal Feeds/Nutrition	4
ANSC 2300	Animal Health/Disease	4
ANSC 2400	Livestock Management	3
ANSC 2950	Beef Production	4
ANSC 2960	Animal Anatomy & Phys	4
PAET 1100	Intro Precision Ag	3
BIOL 1111	Biological Prin I	4
BIOL 1131	Intro to Natural Resource	3
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
SPCH 1101	Intro to Public Speaking	3
	G4: Math/Logical Elective (Below)	3
	Total Credits	**60**

Elective Course Options

Course #	Course Title	Credits
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3

Architectural Technology

Architectural Technology & Design AAS

69 Credits

EGF Campus

Program Description

This program is designed for students who would like enter the workforce or further their education in Architecture, Construction Management or Industrial Technology using transfer agreements with various universities. The customized curriculum allows for more liberal arts classes that are a part of the Minnesota Transfer curriculum.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

AAS – Required Courses

Course #	Course Title	Credits
ARCH 1105	Building Technology I	4
ARCH 1111	Architectural Technology I	3
ARCH 1112	Architectural Technology II	4
ARCH 1121	CAD I	5
ARCH 1123	CAD II	5
ARCH 1125	Design Limitations	3
ARCH 1128	Environmental Design	3
ARCH 1131	Model Construction	2
ARCH 2201	Estimating Tech I	2
ARCH 2211	Architectural Technology III	3
ARCH 2212	Architectural Technology IV	4
ARCH 2213	Building Technology II	4
ARCH 2215	Building Systems	3
ARCH 2220	CAD 3D	4
ARCH 2241	Architectural Design	4
ARCH 2295	Portfolio	1
	MN Transfer Electives	15
	Total Credits	**69**

Architectural Technology

Architectural Technology & Design Diploma

65 Credits

EGF Campus

Program Description

This program is designed for the student who would like to proceed directly to the work place. The curriculum is customized to add more construction-related courses to allow the student to be a more well-rounded employee. The first year of the Architectural Technology and Design program involves the study of residential construction practices and Computer Aided Drawing (CAD), using AutoCAD software and an introduction to building information modeling (BIM) and Revit, a 3D computer modeling program. Projects are drawn using both the drawing board and the computer. The second year is concerned primarily with commercial and industrial construction practices.

Along with the advanced technology, students are also offered classes for a broader base of skills. These include model construction, the creation of scaled architectural presentation models, and architectural presentation class, where students create architectural presentation drawings using 3D software.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
ARCH 1105	Building Technology I	4
ARCH 1111	Architectural Technology I	3
ARCH 1112	Architectural Technology II	4
ARCH 1121	CAD I	5
ARCH 1123	CAD II	5
ARCH 1125	Design Limitations	3
ARCH 1128	Environmental Design	3
ARCH 1131	Model Construction	2
ARCH 2201	Estimating Tech I	2
ARCH 2211	Architectural Technology III	3
ARCH 2212	Architectural Technology IV	4
ARCH 2213	Building Technology II	4
ARCH 2215	Building Systems	3
ARCH 2220	CAD 3D	4
ARCH 2223	CAD 3D Advanced	4
ARCH 2224	Content & Progject Mgmt	3
ARCH 2226	Presentation	4
ARCH 2241	Architectural Design	4
ARCH 2295	Portfolio	1
	Total Credits	**65**

Architectural Technology

Intro Architectural Technology & Design Diploma

31 Credits

EGF Campus

Program Description

The Intro to Architectural Technology and Design diploma involves the study of residential construction practices and computer aided drawing (CAD), using AutoCAD software and an introduction to building information modeling (BIM) and Revit, a 3D computer modeling program. Projects are drawn using both the drawing board and the computer.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
ARCH 1105	Building Technology I	4
ARCH 1111	Architectural Technology I	3
ARCH 1112	Architectural Technology II	4
ARCH 1121	CAD I	5
ARCH 1123	CAD II	5
ARCH 1125	Design Limitations	3
ARCH 1128	Environmental Design	3
ARCH 1131	Model Construction	2
ARCH 1201	Estimating Tech I	2
	Total Credits	**31**

Architectural Technology

Computer Aided Design Certificate

16 Credits

EGF, TRF Campuses

Program Description

This program is offered on a demand basis.

This certificate prepares students for work in civil and mechanical drafting by providing basic computer-aided design skills. Graduates will be prepared for entry-level technician work in the fields of civil engineering, mechanical engineering and related careers. The certificate is designed to stand-alone or be taken in combination with an Associate in Arts degree. Students taking the Associate in Arts option are career-ready as well as prepared to advance their education at the Bachelor level.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
ARCH 1121	CAD I	5
ENGR 1100	Intro Civil Engineering	3
ENGR 1130	CAD II	4
ENGR 1140	CAD III	4
	Total Credits	**16**

Automotive Service Technology

Automotive Service Technology
AAS

73 Credits

TRF Campus

Program Description

This program is designed primarily for students who would like to further their education in Automotive Service. The customized curriculum allows for more Liberal Arts classes, which are a part of the Minnesota Transfer Curriculum.

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.

Students entering this program should have good mechanical aptitude, good communication skills, and the ability to read and comprehend service literature. Graduates of this program will have a variety of opportunities that range from drivability technician, alignment and suspension specialist, transmission specialist, service advisors and managers. Opportunities for advancement may include factory and dealer representatives, management, and self-employment.

Program Specific Requirements

None.

AAS – Required Courses

Course #	Course Title	Credits
AUMO 1103	Intro to Auto Service	2
AUMO 1109	Steering & Suspension	3
AUMO 1111	Brakes	5
AUMO 1112	Ignition/Tune-up	3
AUMO 1116	Basic Elec & Battery	3
AUMO 1118	Starting/Charging Sys	3
AUMO 1125	Driveline/Clutch/Manual	4
AUMO 1133	Auto HVAC	3
AUMO 1134	Wheel Alignment	3
AUMO 1138	Hybrid Vehicle Systems	1
AUMO 2202	Body Electrical	3
AUMO 2204	Auto Computers	3
AUMO 2207	Fuels/Injection/Emissions	5
AUMO 2208	Engine Theory/Diagnostics	4
AUMO 2210	Drivability	4
AUMO 2212	Auto Transmission/Axle I	5
AUMO 2233	Engine Overhaul Lab	4
ENGL 1111	Composition I	3
	G4: Math/Logical Elective	3
	G5: History/Social Elec	3
	G6: Human/Fine Arts Elec	3
	MN Transfer Electives	3
	Total Credits	**73**

Automotive Service Technology

Automotive Service Technology
Diploma

64 Credits

TRF Campus

Program Description

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.

Students entering this program should have good mechanical aptitude, good communication skills, and the ability to read and comprehend service literature. Graduates of this program will have a variety of opportunities that range from drivability technician, alignment and suspension specialist, transmission specialist, service advisors and managers. Opportunities for advancement may include factory and dealer representatives, management, and self-employment.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
AUMO 1103	Intro to Auto Service	2
AUMO 1109	Steering & Suspension	3
AUMO 1111	Brakes	5
AUMO 1112	Ignition/Tune-up	3
AUMO 1116	Basic Elec & Battery	3
AUMO 1118	Starting/Charging Sys	3
AUMO 1125	Driveline/Clutch/Manual	4
AUMO 1133	Auto HVAC	3
AUMO 1134	Wheel Alignment	3
AUMO 1138	Hybrid Vehicle Systems	1
AUMO 2202	Body Electrical	3
AUMO 2204	Auto Computers	3
AUMO 2207	Fuels/Injection/Emissions	5
AUMO 2208	Engine Theory/Diagnostics	4
AUMO 2210	Drivability	4
AUMO 2212	Auto Transmission/Axle I	5
AUMO 2233	Engine Overhaul Lab	4
CPTR 1100	Computer Basics	1
CRLT 2103	Job Seeking/Keeping	1
HPER 1410	First Aid/CPR	1
SSCI 1101	Human Relations	3
	Total Credits	**64**

Automotive Service Technology

Automotive Engine Repair, Suspension, and Brakes Certificate

21 Credits

TRF Campus

Program Description

None.

Program Specific Requirements

Cumulative GPA of 2.0 or higher and successful completion of certificate required courses.

Required Courses

Course #	Course Title	Credits
AUMO 1103	Intro to Auto Service	2
AUMO 1109	Steering & Suspension	3
AUMO 1111	Brakes	5
AUMO 1134	Wheel Alignment	3
AUMO 2208	Engine Theory/Diagnostics	4
AUMO 2233	Engine Overhaul Lab	4
	Total Credits	**21**

Automotive Service Technology

Automotive Electronics and Drivability Certificate

18 Credits

TRF Campus

Program Description

None.

Program Specific Requirements

Cumulative GPA of 2.0 or higher and successful completion of certificate required courses.

Required Courses

Course #	Course Title	Credits
AUMO 1112	Ignition/Tune-up	3
AUMO 2202	Body Electrical	3
AUMO 2204	Auto Computers	3
AUMO 2207	Fuels/Injection/Emissions	5
AUMO 2210	Drivability	4
	Total Credits	**18**

Auto Body Collision Technology

Auto Body Collision Technology AAS

71 Credits

TRF Campus

Program Description

Formal training in Auto Body Collision Technology is highly desirable because advances in technology in recent years have greatly changed the structure, components, and even materials used in automobiles. This program is designed for entry level education in the Auto Body Collision Repair industry. The customized curriculum allows students time for more Liberal Arts classes, which are a part of the Minnesota Transfer Curriculum.

Auto Body Technicians replace or repair damaged portions of automobile bodies and frames using the latest tools and technology. They straighten bent frames, repair dents, replace body panels, and weld rust repair panels. They also replace broken glass, inspect drive train components, and perform electrical diagnostics including air bag component replacement.

Students will also sand, mask repair areas, and spray the latest automotive refinishing materials in a state of the art down draft bake booth. Graduates of the program are eligible to take the Automotive Service Excellence (ASE) certification test after graduating and one year of training in a collision repair facility.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Students entering the program should have good mechanical skills, communication skills, and the ability to follow instructions. This is a physical and sometimes dirty environment, so safety precautions are strictly enforced.

Attendance is critical due to the volume and specific information given to ensure the correct repair process. There is also a dress code requirement. Tools and safety equipment are required; a tool list is also available from an instructor.

AAS – Required Courses

Course #	Course Title	Credits
AUBO 1100	Intro to Auto Body	2
AUBO 1102	Off Car Repair	4
AUBO 1106	Plastic Welding	1
AUBO 1113	Auto Body Lab I	3
AUBO 1114	Auto Body Lab II	4
AUBO 1121	Auto Body Refinishing	6
AUBO 1123	Glass & Trim	2
AUBO 1131	Auto Body Welding I	2
AUBO 1132	Auto Body Welding II	2
AUBO 2201	Collision/Damage/Estimate	4
AUBO 2205	Unibody & Frame	4
AUBO 2208	Major Collision Lab	4
AUBO 2214	General Auto Body Lab	4
AUBO 2216	Shop Operations	2
AUBO 2221	Simulated Auto Body I	4
AUBO 2225	Panel Replacement	2
AUBO 2228	Auto Body Mechanical	6
ENGL 1111	Composition I	3
	G4: Math/Logical Elective	3
	G5: History/Social Elec	3
	G6: Human/Fine Arts Elec	3
	MN Transfer Electives	3
	Total Credits	**71**

Auto Body Collision Technology

Auto Body Collision Technology Diploma

64 Credits

TRF Campus

Program Description

Formal training in Auto Body Collision Technology is highly desirable because advances in technology in recent years have greatly changed the structure, components, and even materials used in automobiles. This program is designed for entry level education in the Auto Body Collision Repair industry.

Auto Body Technicians replace or repair damaged portions of automobile bodies and frames using the latest tools and technology. They straighten bent frames, repair dents, replace body panels, and weld rust repair panels. They also replace broken glass, inspect drive train components, and perform electrical diagnostics including air bag component replacement.

Students will also sand, mask repair areas, and spray the latest automotive refinishing materials in a state of the art down draft bake booth. Graduates of the program are eligible to take the Automotive Service Excellence (ASE) certification test after graduating and one year of training in a collision repair facility.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Students entering the program should have good mechanical skills, communication skills, and the ability to follow instructions. This is a physical and sometimes dirty environment, so safety precautions are strictly enforced.

Attendance is critical due to the volume and specific information given to ensure the correct repair process. There is also a dress code requirement. Tools and safety equipment are required; a tool list is also available from an instructor.

Required Courses

Course #	Course Title	Credits
AUBO 1100	Intro to Auto Body	2
AUBO 1102	Off Car Repair	4
AUBO 1106	Plastic Welding	1
AUBO 1113	Auto Body Lab I	3
AUBO 1114	Auto Body Lab II	4
AUBO 1121	Auto Body Refinishing	6
AUBO 1123	Glass & Trim	2
AUBO 1131	Auto Body Welding I	2
AUBO 1132	Auto Body Welding II	2
AUBO 2201	Collision/Damage/Estimate	4
AUBO 2205	Unibody & Frame	4
AUBO 2208	Major Collision Lab	4
AUBO 2214	General Auto Body Lab	4
AUBO 2216	Shop Operations	2
AUBO 2221	Simulated Auto Body I	4
AUBO 2222	Simulated Auto Body II	2
AUBO 2225	Panel Replacement	2
AUBO 2228	Auto Body Mechanical	6
CPTR 1100	Computer Basics	1
CRLT 2103	Job Seeking/Keeping	1
HPER 1410	First Aid/CPR	1
SSCI 1101	Human Relations	3
	Total Credits	**64**

Auto Body Collision Technology

Collision & Refinishing Technician Certificate

30 Credits

TRF Campus

Program Description

Auto Body Technicians replace or repair damaged portions of automobile bodies and frames using the latest tools and technology. They straighten bent frames, repair dents, replace body panels, weld rust repair panels, and remove and replace glass. Formal training in Auto Body Collision Technology is highly desirable because advances in technology in recent years have greatly changed the structure, components, and even materials used in automobiles. This program is designed for entry level education in the Auto Body Collision Repair industry. Students will also sand, mask repair areas, and spray the latest automotive refinishing materials in a state of the art down draft bake booth.

Program Specific Requirements

Successful completion of the Sheet Metal Repair Technician Certificate is a prerequisite for the Collision and Refinishing Technician Certificate.

Required Courses

Course #	Course Title	Credits
AUBO 2201	Collision/Damage/Estimate	4
AUBO 2205	Unibody & Frame	4
AUBO 2208	Major Collision Lab	4
AUBO 2214	General Auto Body Lab	4
AUBO 2216	Shop Operations	2
AUBO 2221	Simulated Auto Body I	4
AUBO 2225	Panel Replacement	2
AUBO 2228	Auto Body Mechanical	6
	Total Credits	**30**

Auto Body Collision Technology

Sheet Metal Repair Technician Certificate

26 Credits

TRF Campus

Program Description

Auto Body Technicians replace or repair damaged portions of automobile bodies and frames using the latest tools and technology. They straighten bent frames, repair dents, replace body panels, weld rust repair panels, and remove and replace glass. Format training in Auto Body Collision Technology is highly desirable because advances in technology in recent years have greatly changed the structure, components, and even materials used in automobiles. This program is designed for entry level education in the Auto Body Collision Repair industry. Students will also sand, mask repair areas, and spray the latest automotive refinishing materials in a state of the art down draft bake booth.

Required Courses

Course #	Course Title	Credits
AUBO 1100	Intro to Auto Body	2
AUBO 1102	Off Car Repair	4
AUBO 1106	Plastic Welding	1
AUBO 1113	Auto Body Lab I	3
AUBO 1114	Auto Body Lab II	4
AUBO 1121	Auto Body Refinishing	6
AUBO 1123	Glass & Trim	2
AUBO 1131	Auto Body Welding I	2
AUBO 1132	Auto Body Welding II	2
	Total Credits	**26**

Program Specific Requirements

None.

Aviation Maintenance Technology

Aviation Maintenance Technology AAS

100 Credits

TRF Campus

Program Description

Aviation Maintenance Technology concentrates on aircraft airframe and powerplant maintenance to prepare the student to test for certification as a Federal Aviation Administration airframe and powerplant mechanic. Students receive hands-on training in modern and well-equipped facilities. More than 20 aircraft, including two Boeing 727s, two DC-9's, a Sabreliner, a twin-engine turbo prop Mitsubishi MU-2, a Bell 206 turbine-powered helicopter, as well as Piper, Cessna, and Beechcraft piston-powered light aircraft are used in the student's training.

After completing this degree, students can then transfer to a four-year institution to complete their Bachelor's Degree requirements. NCTC has articulation agreements with a number of area institutions including the University of North Dakota, St. Cloud State University, Metropolitan State University, Minnesota State University-Mankato, and Winona State University.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. English course requirements are listed in the curriculum summary. Arithmetic assessment scores must be greater than or equal to 50 or students must complete MATH 0080 or a higher level course.

AAS – Required Courses

Course #	Course Title	Credits
AVIA 1101	Aviation Basics	6
AVIA 1102	Math & Physics	2
AVIA 1104	Weight & Balance	2
AVIA 1105	Basic Electricity	5
AVIA 1107	Inspection/Treatment	3
AVIA 1110	Shop Tools/Hardware	1
AVIA 1120	Airframe Inspection	3
AVIA 1121	Nonmetallic Structures	5
AVIA 1123	Sheet Metal	6
AVIA 1125	Hydraulics/Landing Gear	6
AVIA 1127	Environ/Assembly/Rigging	6
AVIA 2201	Reciprocating Theory/Main	7
AVIA 2203	Turbine Eng Theory/Maint	7
AVIA 2205	Ign/Fuel Metering/Pwrplt	8
AVIA 2207	Propellers/Pwrplt Inspec	5
AVIA 2223	Fire/Fuel/Instr Systems	4
AVIA 2225	Electric Troubleshooting	8
CRLT 2103	Job Seeking/Keeping	1
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
	G5: History/Social Elec	3
	G6: Human/Fine Arts Elec	3
	G3: Natural Sci or G4 Math	3
	Total Credits	**100**

Aviation Maintenance Technology

Aviation Maintenance Technology Diploma

88 Credits

TRF Campus

Program Description

Aviation Maintenance Technology concentrates on aircraft airframe and powerplant maintenance to prepare the student to test for certification as a Federal Aviation Administration airframe and Powerplant Mechanic. Students receive hands-on training in modern and well-equipped facilities. More than 20 aircraft, including two Boeing 727s, two DC-9's, a Sabreliner, a twin-engine turbo prop Mitsubishi MU-2, a Bell 206 turbine-powered helicopter, as well as Piper, Cessna, and Beechcraft piston-powered aircraft are used in the student's training.

The diploma program concentrates training on all facets of repair and inspection in electrical, pressurization, hydraulics, instruments, navigation, and engine systems.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
AVIA 1101	Aviation Basics	6
AVIA 1102	Math & Physics	2
AVIA 1104	Weight & Balance	2
AVIA 1105	Basic Electricity	5
AVIA 1107	Inspection/Treatment	3
AVIA 1110	Shop Tools/Hardware	1
AVIA 1120	Airframe Inspection	3
AVIA 1121	Nonmetallic Structures	5
AVIA 1123	Sheet Metal	6
AVIA 1125	Hydraulics/Landing Gear	6
AVIA 1127	Environ/Assembly/Rigging	6
AVIA 2201	Reciprocating Theory/Main	7
AVIA 2203	Turbine Eng Theory/Maint	7
AVIA 2205	Ign/Fuel Metering/Pwrplt	8
AVIA 2207	Propellers/Pwrplt Inspec	5
AVIA 2223	Fire/Fuel/Instr Systems	4
AVIA 2225	Electric Troubleshooting	8
CRLT 2103	Job Seeking/Keeping	1
SSCI 1101	Human Relations	3
	Total Credits	**88**

Aviation Maintenance Technology

Aviation Maintenance Technician Plus Certificate

16 Credits

TRF Campus

Program Description

The UAS certificate will concentrate on the maintenance and repair of the components of unmanned aerial systems to include: unmanned aerial vehicles (UAVs), ground control stations (GCSs), understanding the function of data links or the communication/guidance system between vehicle and satellites (line of sight), and a basic understanding of computer networks and their functionality within UAS. Courses are designed to create a skilled UAS Maintenance Technician with a broad understanding of commonly used UAS platforms at the functional level.

Program Specific Requirements

Students are required to have the Federal Aviation Administration (FAA) Airframe and Powerplant (A&P) Certification prior to enrolling into the program.

Required Courses

Course #	Course Title	Credits
AVET 2131	Avionics I	5
CPTR 1131	Microcomputer Maintenance	4
CPTR 1136	Networking I	4
UAST 2110	Foundations of UAS	3
	Total Credits	**16**

Aviation Maintenance Technology

Small Unmanned Aircraft Systems Technician AAS

60 Credits

TRF Campus

Program Description

The sUAS A.A.S. will concentrate on the maintenance, repair and operation of the components of small unmanned aerial systems to include: motor controls, sensor technologies, small electronics, computer hardware, Local Area Networks (LAN) understanding the function of data links or the communication/guidance system between vehicle and control interfaces (line of sight), and within UAS. Additionally, students will learn how to properly plan and execute flight operations. Courses are designed to create a skilled sUAS Field Service Technician with a broad understanding of commonly used UAS platforms at the functional level, an in-depth understanding of the components of those systems and the knowledge necessary to conduct safe and efficient flight operations.

Program Specific Requirements

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

AAS Required Courses

Course #	Course Title	Credits
AVET 2131	Avionics I	5
AVIA 1105	Basic Electricity	5
CPTR 1131	Microcomputer Maintenance	4
CRLT 2103	Job Seeking/Keeping	1
ETAS 1560	Robotic Programming I	2
ETAS 2220	Microcontrollers I	4
ETAS 2221	Sensor Technology	4
ETAS 2230	Motor Controls	3
ETAS 2232	Microcontrollers II	4
UAST 2110	Foundations of UAS	3
UAST 2180	sUAS Ground School	3
UAST 2190	sUAS Lab	3
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
ENGL 2207	Technical Writing	3
MATH 2203	Statistics	4
	MN Transfer Electives	6
	Total Credits	**60**

Aviation Maintenance Technology

Small Unmanned Aircraft Systems Field Service Tech Certificate

30 Credits

TRF Campus

Program Description

The sUAS certificate will concentrate on the maintenance, operations and applications of small unmanned aerial systems to include: electronics, computer hardware, local area networks, understanding the function of data links or the communication/guidance system between vehicle and control interfaces and within the sUAS and conducting safe flight operations in the National Airspace System. Courses are designed to create a skilled sUAS Field Service Technician with a broad understanding of sUAS at the functional and operational level.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. English course requirements are listed in the curriculum summary. Arithmetic assessment scores must be greater than or equal to 50 or students must complete MATH 0080 or a higher level course.

Required Courses

Course #	Course Title	Credits
AVET 2131	Avionics I	5
AVIA 1105	Basic Electricity	5
CPTR 1131	Microcomputer Maintenance	4
ENGL 1111	Composition I	3
ETAS 2220	Microcontrollers I	4
UAST 2110	Foundations of UAS	3
UAST 2180	sUAS Ground School	3
UAST 2190	sUAS Lab	3
	Total Credits	**30**

Aviation Maintenance Technology

Unmanned Aircraft Systems Maintenance Technician Certificate

30 Credits

TRF Campus

Program Description

The UAS certificate will concentrate on the maintenance and repair of the components of unmanned aerial systems to include: unmanned aerial vehicles (UAVs), ground control stations (GCSs), understanding the function of data links or the communication/guidance system between vehicle and satellites (line of sight), and a basic understanding of computer networks and their functionality within UAS. Courses are designed to create a skilled UAS Maintenance Technician with a broad understanding of commonly used UAS platforms at the functional level.

Program Specific Requirements

Students are required to have the Federal Aviation Administration (FAA) Airframe and Powerplant (A&P) Certification prior to enrolling into the program.

Required Courses

Course #	Course Title	Credits
AVET 2131	Avionics I	5
AVET 2141	Avionics II	4
CPTR 1131	Microcomputer Maintenance	4
CPTR 1136	Networking I	4
UAST 2110	Foundations of UAS	3
UAST 2120	Fabrication Integration	5
UAST 2150	Ground Control Station	3
UAST 2160	UAS Aviation Maint Tech	2
	Total Credits	**30**

Business

Business AS

60 Credits

EGF, TRF Campuses and Online

Program Description

The business world today is facing rapid changes, creating an increased demand for well-trained professionals to fill positions in all areas of the business industry. An Associate in Science degree builds a strong foundation of leadership and managerial skills to effectively manage people, organizations, and technology in the increasingly competitive global business world.

Northland's Business program is for students intending to seek employment after graduation and for those planning to continue their studies at a four-year college or university. The curriculum addresses contemporary business issues through courses in economics, communications, the legal environment, and provides practical knowledge in analytical disciplines such as computer science, statistics, and mathematics.

The courses required for this degree cover the basic areas of knowledge necessary for entrance into the business world and successful performance on the job. In addition, internships are available for students who desire hands-on experience in their chosen fields.

Program Specific Requirements

Note: BUSN 1110 Intro to Business is offered in an online format in this program sequence for the EGF campus. Check the Distance Education schedule for this course, or equivalent course (SUPL 1104) when registering or visit with your advisor.

AS Required Courses

Course #	Course Title	Credits
ADMS 1116	Business Communications	3
BUSN 1110	Intro to Business	3
BUSN 2210	Prin of Management	3
BUSN 2218	Legal Environment Busn	3
BUSN 2221	Prin of Accounting I	4
BUSN 2222	Prin of Accounting II	4
CPTR 1104	Intro to Computer Tech	3
MKTG 2120	Supervisory Leadership	3
MKTG 2200	Prin of Marketing	3
ECON 2201	Microeconomics	3
ECON 2203	Macroeconomics	3
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
MATH 1110	College Algebra	3
MATH 2203	Statistics	4
	G1: Communication Elec (Below)	3
	G9: Ethic/Civic Resp Elec (Below)	3
	MN Transfer Electives	6
	Total Credits	**60**

Elective Course Options

G1: Communications Electives

Course #	Course Title	Credits
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3

G9: Ethical/Civic Responsibility Electives

Course #	Course Title	Credits
PHIL 1102	Intro to Ethics	3
PHIL 2240	Ethics and Business	3

Carpentry

Carpentry – Residential Diploma

34 Credits

EGF Campus

Program Description

This program prepares students with skills and knowledge for a career in residential carpentry. Technical and general courses provide the students theory and hands-on learning experiences. General areas of study include building codes, blueprint reading, estimating, site layout, concrete, framing, interior and exterior finish, cabinet construction and installation, and decks. The Residential Carpentry diploma program provides graduates with skills required of a carpenter in a variety of building construction settings common in both rural and metropolitan areas.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-46
Arithmetic-50

Required Courses

Course #	Course Title	Credits
BLDG 1114	Blueprint Reading I	2
BLDG 1120	Construction Estimating I	2
CARP 1102	Prin of Framing	3
CARP 1104	Framing I	6
CARP 1106	Footings & Foundations	2
CARP 1108	Interior Finish I	4
CARP 1110	Intro to Cabinets	3
CARP 1112	Exterior Finish I	3
CARP 2204	Concrete Technology	2
CARP 2214	Exterior Siding	2
CARP 2216	Deck Construction	2
	General Studies Electives	3
	Total Credits	**34**

Commercial Vehicle Operator

Commercial Vehicle Operator Certificate

18 Credits

EGF Campus

Program Description

The Commercial Vehicle Operators certificate program is a comprehensive truck driving program that will prepare you for the successful acquisition of a Commercial Driver's License (CDL). This program offers you the ability to get behind the wheel and learn by driving tractor-trailer combinations under the direction of experienced instructors. Students will log a significant amount of miles behind the wheel prior to their graduation so you will be ready to confidently enter the workforce that needs you NOW. Students will use a college-owned tractor-trailer to test during this program. Upon successful completion of the program, graduates will be qualified to sit for the CDL examination in their State of Licensure.

The program will provide direct connection to regional transportation companies in the form of job fairs, guest speakers, company recruiters. Resume building, application preparation and interview techniques are included in this program.

Program Specific Requirements

Students must complete and successfully pass:
1. DOT Physical Examination during 1st week of class.

2. DOT Pre-hiring Drug Screening/Test during 1st week of class.

3. DOT Random Drug Screening Pool within 16-week course.

4. Driving background check prior to start of semester or during 1st week of class. Students must possess a valid driver's license and be declared "eligible" to drive a State of Minnesota owned vehicle. Free of serious driving infractions for the last five years.

5. CPR and First Aid Certification. Arrangements will be made for students to acquire American Heart Association (AHA) CPR certification; AHA First Aid Certification. Cost for class is $50.

6. All students are scheduled by NCTC/CVOP staff for their respective state administered CDL Exam and are expected to show up on time for exam. If for any reason a student believes they are not adequately prepared, they must notify NCTC/CVOP staff at least one (1) week prior to their scheduled test date, as each respective state requires this notice to assure another person can get scheduled. When a student does not notify NCTC/CVOP staff within the prescribed time line, nor show up when scheduled, this will be counted against their two (2) allowed testing opportunities. Each student's balance must be paid in full before they are allowed to take the CDL exam using the State of Minnesota vehicle.

7. All students will be allotted six (6) months to complete their two respective state administered CDL Exams. The effective start date will commence on the date when the student began training at NCTC/CVOP, or the date when the student was issued their state driving permit, whichever is applicable per NCTC/CVOP staff.

8. Students applying for financial aid may need to supply the following: social security numbers, dates of birth, postsecondary institution transcripts, and other documents necessary to determine eligibility.

9. Northland faculty or staff shall require a student to submit to an alcohol and/or controlled substance test when faculty or staff has reasonable suspicion to believe that the student has violated the prohibitions concerning alcohol or controlled substances. The determination that reasonable suspicion exists to require the student drive to undergo an alcohol and/or controlled substance test must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the driver.

***** Please note that registration in the program's courses does not guarantee driving eligibility. Factors such as your driving background check and DOT Physical/Drug screening may rule you ineligible even after you are registered. Eligibility to drive a Northland vehicle does not guarantee eligibility of a state issued permit or commercial driver's license (CDL).

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Required Courses

Course #	Course Title	Credits
CVOP 1100	State/Federal Regulation	4
CVOP 1105	Safe Operation/Regulation	4
CVOP 1110	Trip Planning	3
CVOP 1115	Commercial Op I	4
CVOP 1120	Commercial Op II	3
	Total Credits	**18**

Computer & Network Technology

Computer & Network Technology AAS

60 Credits

EGF Campus

Program Description

The Computer & Network Technology Associates degree offers students both theory and hands-on training in computer equipment servicing and networking. Computer skills development covers the hardware and software systems of current computer technology. Networking skills include switching, routing, server operating systems, directory services and much more. Many classes are built around specific industry certifications.

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.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

All required courses for the program must be completed with a grade of C or better.

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

AAS Required Courses

Course #	Course Title	Credits
CPTR 1110	Visual Basic Programming	3
CPTR 1131	Microcomputer Maintenance	4
CPTR 1136	Networking I	4
CPTR 1138	Information Systems	2
CPTR 1147	Networking II	4
CPTR 1148	Micro Operating Systems	3
CPTR 1171	Fund of Network Security	3
CPTR 2214	Network Operating Sys	3
CPTR 2226	Networking III	3
CPTR 2227	Networking IV	3
CPTR 2231	Unix/Linux	3
CPTR 2252	Micro Systems Project	3
CRLT 2103	Job Seeking/Keeping	1
ENGL 1111	Composition I	3
MATH 1110	College Algebra	3
PHIL 1102	Intro to Ethics	3
SPCH 1101	Intro to Public Speaking	3
	G5: History/Social Elec	3
	Area of Interest Electives (Below)	6
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
ACCT 1100	Prin of Bookkeeping	3
ACCT 1124	Spreadsheet Concepts	3
ADMS 1116	Business Communications	3
BUSN 2210	Prin of Management	3
BUSN 2218	Legal Environment Busn	3
CPTR 1104	Intro to Computer Tech	3
CPTR 1106	Microcomputer Databases	3
CPTR 1128	Help Desk Concepts	3
CPTR 1500	Intro Web Concepts	3
CPTR 2242	Java Programming	3
CPTR 2294	Internship	3
MKTG 2201	Prin of Sales	3
MKTG 2205	Prin of Retailing	3
MKTG 2306	Small Business Mgmt	3

Computer & Network Technology

Cisco Networking Certificate

14 Credits

EGF Campus

Program Description

This program prepares students to take the Cisco Certified Network Associate (CCNA) certification and also the CompTIA Network+ certification. The course work includes Cisco semesters 1 - 4. Skill development covers LAN/WAN networking technology and concepts, networking math, networking media, router configuration, switching, VLANS, routing protocols and WAN links and services. Prior experience with computer hardware, binary math, and basic electronics is desired but not required. Background in cabling is beneficial. Upon completion of this certificate the student will be able to take the Cisco CCNA and CompTIA Network+ certification exams offered though a VUE or Prometric testing center.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

All required courses for the program must be completed with a grade of C or better.

Required Courses

Course #	Course Title	Credits
CPTR 1136	Networking I	4
CPTR 1147	Networking II	4
CPTR 2226	Networking III	3
CPTR 2227	Networking IV	3
	Total Credits	**14**

Construction Electricity

Construction Electricity
Diploma

74 Credits

EGF Campus

Program Description

The Construction Electricity diploma program prepares students to build, install, maintain and repair electrical systems that provide heat, light, or power for residential, commercial and industrial structures. Technical and general courses provide students with a mix of theory and hands-on application in classroom, lab settings, and job sites. This comprehensive program includes maintenance of electrical equipment, wiring methods, blueprint reading, material selection, programmable controllers, and the National Electric Codes.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-46
Arithmetic-50

Required Courses

Course #	Course Title	Credits
CONE 1100	Elec Construction Safety	1
CONE 1102	Intro Elec Circuit Theory	4
CONE 1104	Intro to NEC	2
CONE 1107	Intro Residential Wiring	3
CONE 1108	Electrical Circuit Theory	4
CONE 1110	AC/DC Motors/Generators	4
CONE 1112	Residential Wiring	3
CONE 1116	Conduit/Tool Applications	2
CONE 1118	Electrical Services	3
CONE 1120	Electrical Blueprints	3
CONE 1122	Intro to Materials	1
CONE 1124	Intro Elec Blueprint Read	2
CONE 2114	National Electrical Code	2
CONE 2202	Heating/Cooling Controls	3
CONE 2205	Intro Commercial Wiring	3
CONE 2206	Intro Moto Control Applc	3
CONE 2208	Prog Logic Controllers	2
CONE 2211	Electronic Motor Control	3
CONE 2212	Commercial Wiring	3
CONE 2214	Industrial Wiring	2
CONE 2216	Moto Control Application	3
CONE 2225	Transformers	2
CONE 2228	Troubleshooting	1
CONE 2230	Load Management Controls	2
CONE 2238	Low Voltage Wiring	2
CONE 2248	Code Applications	2
CONE 2250	Special Topics/Projects	2
CPTR 1100	Computer Basics	1
CRLT 2103	Job Seeking/Keeping	1
GTEC 1108	Internet Literacy Skills	1
HPER 1410	First Aid/CPR	1
MATH 1001	Technical Mathematics	3
	Total Credits	**74**

Construction Plumbing

Construction Plumbing Diploma

34 Credits

EGF Campus

Program Description

The Plumbing program prepares students to begin a career in plumbing and pipe fitting. Coursework provides technical understanding of Plumbing Technology and skills development. Coursework integrates theory and practical experience. Through the Plumbing program, the student develops skills in water systems, piping procedures, plumbing and piping systems, residential and commercial system installations, blueprint reading and sketching, and heating systems installations. The successful graduate is eligible for employment in an advanced apprenticeship level in a variety of businesses found in rural and metropolitan areas.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-46
Arithmetic-50

Required Courses

Course #	Course Title	Credits
BLDG 1102	Construction Safety	1
BLDG 1106	Grades/Cap/Elec Calc	3
BLDG 1114	Blueprint Reading I	2
HEAT 2214	Hydronic Heating Sys	4
PLBG 1104	Bldg Sewers/Drainage Sys	3
PLBG 1108	Plumbing/Piping Drawings	2
PLBG 1110	Copper Pipe Procedures	2
PLBG 1112	Plastic Pipe Procedures	2
PLBG 1114	Steel Pipe Procedures	3
PLBG 1116	Plumbing Theory/Sys	3
PLBG 1118	State Plbg Code Interpret	1
PLBG 1120	Residential Plbg Install	3
PLBG 1122	Plbg Repair/Service Work	2
	Area of Interest Electives (Below)	3
	Total Credits	**34**

Area of Interest Elective Course Options

Course #	Course Title	Credits
SSCI 1101	Human Relations	3
	MN Transfer Electives	3

Criminal Justice

Criminal Justice – Law Enforcement AAS

68 Credits

TRF Campus

Program Description

The Criminal Justice program prepares students for careers with city, state, federal, private, and other criminal justice agencies. While the NCTC program is designed primarily for entry-level law enforcement, many students choose courses that lead to careers in other areas of the Criminal Justice system, such as public safety communications, corrections, and probation work.

While the program provides pre-employment education for students who want to enter the field of criminal justice at the end of two years with an Associate of Science degree, Northland also provides an Associate of Arts degree that transfers to a four-year institution.

The Criminal Justice program is certified by the Minnesota Board of Peace Officer Standards and Training (POST). After completing the skills training (also offered on the Northland campus) and completing a degree, students are eligible to take the state POST exam.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Students completing the Associate of Science (A.S.) degree in Criminal Justice have an option to choose between a Natural Science (Minnesota Transfer Curriculum Goal Area III) or Math (Minnesota Transfer Curriculum Goal Area IV). Students who choose to take a Natural Science course instead of Math must either earn a score of 50 on their Accuplacer Arithmetic test or complete MATH 0080, Math Foundations with a grade of C or better to satisfy their college minimum requirement.

All required CRJU courses and SOCI 1107 must be completed with a grade of C or better.

Requirements for CRJU 2209 Skills I (fall semester) and CRJU 2219 Skills II (spring semester):

1. 2.0 cumulative GPA.
2. Students who are on warning or probation status must have permission of the Criminal Justice Program Director to register for CRJU 2209 and CRJU 2219.
3. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed). Please see the Minnesota Peace Officer Licensing link that addresses the Minnesota Minimum Selection Standards to be licensed as a Peace Officer.
4. Completion and approval of the Minnesota Multi-Phasic Personality Inventory-2 Restructured Form (MMPI 2 RF)
5. Medical clearance from a healthcare provider stating student is physically eligible to participate in skills (see attached PHYSICIANS APPROVAL FORM)
6. CRJU 2209 and CRJU 2219 are physically challenging courses.

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AS Required Courses

Course #	Course Title	Credits
CRJU 1102	Law Enf & Human Behavior	3
CRJU 1103	Juvenile Justice	3
CRJU 1106	Corrections/Probation	3
CRJU 1107	Law Enf & Community	3
CRJU 1126	L.E. Fitness I	1
CRJU 2126	L.E. Fitness II	1
CRJU 2200	Minnesota Statutes	3
CRJU 2206	Criminal Investigations	3
CRJU 2209	Law Enforcement Skills I	6
CRJU 2210	Criminal Procedures	3
CRJU 2219	Law Enforcement Skills II	6
HPER 2244	First Responder	3
ENGL 1111	Composition I	3
PHIL 1102	Intro to Ethics	3
PSYC 1105	Intro to Psychology	3
SOCI 1107	Intro Criminal Justice	3
	G1: Communications Elective	3
	G2: Critical Thinking Elective	3
	G3: Natural Sci or G4 Math	3
	MN Transfer Electives	9
	Total Credits	**68**

Area of Interest Elective Course Options

Course #	Course Title	Credits
CRJU 2295	Internship	3
	G1: Communication Elective	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3
	G2: Critical Thinking Electives	
ENGL 1112	Composition II	3
ENGL 2207	Technical Writing	3

Criminal Justice

Criminal Justice – Law Enforcement Diploma

38 Credits

TRF Campus

Program Description

The Criminal Justice-Law Enforcement diploma is intended to provide a Criminal Justice-Law Enforcement degree to students who have previously completed a degree (Associates (AA, AS, AAS), Bachelors or Masters) at an accredited college or university and are seeking a professional peace officer's license. This diploma would include criminal justice electives, mandated by Professional Peace Officer Education (PPOE), with the addition of the skills component as mandated for Minnesota Peace Officers.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

All required CRJU courses and SOCI 1107 must be completed with a grade of C or better.

Requirements for CRJU 2209 Skills I (fall semester) and CRJU 2219 Skills II (spring semester)

1. 2.0 cumulative GPA.
2. Students who are on warning or probation status must have permission of the Criminal Justice Program Director to register for CRJU 2209 and CRJU 2219.
3. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

   Please see the Minnesota Peace Officer Licensing link that addresses the Minnesota Minimum Selection Standards to be licensed as a Peace Officer.
4. Completion and approval of the Minnesota Multi-Phasic Personality Inventory-2 Restructured Form (MMPI 2 RF)
5. Medical clearance from a healthcare provider stating student is physically eligible to participate in skills (see attached PHYSICIANS APPROVAL FORM)
6. CRJU 2209 and CRJU 2219 are physically challenging courses.

Required Courses

Course #	Course Title	Credits
CRJU 1102	Law Enf & Human Behavior	3
CRJU 1103	Juvenile Justice	3
CRJU 1107	Law Enf & Community	3
CRJU 1126	L.E. Fitness I	1
CRJU 2126	L.E. Fitness II	1
CRJU 2200	Minnesota Statutes	3
CRJU 2206	Criminal Investigations	3
CRJU 2209	Law Enforcement Skills I	6
CRJU 2210	Criminal Procedures	3
CRJU 2219	Law Enforcement Skills II	6
HPER 2244	First Responder	3
SOCI 1107	Intro Criminal Justice	3
	Total Credits	**38**

Criminal Justice

Criminal Justice – Law Enforcement Certificate

21 Credits

TRF Campus

Program Description

The Criminal Justice-Law Enforcement certificate is designed to accompany the Northland Community and Technical College A.A. degree. It provides a basic law enforcement education for individuals intending to transfer to baccalaureate institution. This degree does not meet the all the requirement for Peace Officer licensing for Minnesota. Students who intend to become Peace Officer in Minnesota should consult with the Program Coordinator or an academic advisor prior to selecting this degree.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Required Courses

Course #	Course Title	Credits
CRJU 1102	Law Enf & Human Behavior	3
CRJU 1103	Juvenile Justice	3
CRJU 1107	Law Enf & Community	3
CRJU 2200	Minnesota Statutes	3
CRJU 2206	Criminal Investigations	3
CRJU 2210	Criminal Procedures	3
SOCI 1107	Intro Criminal Justice	3
	Total Credits	**21**

Customer Service

Customer Service Certificate

16 Credits

EGF, TRF Campuses and Online

Program Description

Most of us engage in customer service activities of some type during our normal daily routines of our personal and professional lives. However, simply being exposed to customers does not mean one understands how to do it well or how to evaluate whether one is delivering or receiving an acceptable level of customer service. This certificate is intended to provide students with a 16 credit background in the fundamental principles of quality customer service. Twelve credits will be earned relating to human relations skills, customer service skills, and communication skills (including written, oral, and listening skills). Students will also select four credits directly related to their program field of study. After successfully completing this certificate, students will be able to meet the needs of customers, patients, and clients of all kinds.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:
Reading Comprehension: 78
Arithmetic: 50

Required Courses

Course #	Course Title	Credits
MKTG 1108	Customer Relations Mgmt	3
MKTG 2200	Prin of Marketing	3
SSCI 1101	Human Relations	3
	G1: Communication Elec	3
	Area of Interest Electives	4
	Total Credits	**16**

Area of Interest Elective Course Options

Course #	Course Title	Credits
CPTR 1104	Intro to Computer Tech	3
CRLT 2103	Job Seeking/Keeping	1
HPER 1410	First Aid/CPR	1
MKTG 2120	Supervisory Leadership	3
MKTG 2201	Prin of Sales	3
	G1: Communications Electives	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3

Dietetic Technician

Dietetic Technician AAS

67 Credits

Online

Program Description

The Dietetic Technician Program trains students to work either independently or with Registered Dietitians in the areas of food, nutrition, and dietetics. Workers in this field promote optimum health through nutrition and are a central part of the healthcare and foodservice management teams. Dietetic Technicians work in a wide range of settings, including health care and public health, foodservice, community, and research. Graduates of this program are eligible to take the Registration Examination from the Commission on Dietetic Registration (CDR) www.cdrnet.org. Upon passing the exam graduates become a Dietetic Technician, Registered (DTR).

Program Specific Requirements

1. Complete the admissions application to NCTC.

2. Complete all required developmental courses with a C grade or better before applying to the Dietetic Technician program.

3. Complete the TEAS for Allied Health with a minimum score of 50.

4. A cohort of 30 students will be admitted annually to the program. Students scoring the highest in the admission's rubric will be selected.

5. Completion of the Dietetic Technician program eligibility survey. The application window will be open October 1-15.

6. Obtain student membership to the Academy of Nutrition and Dietetics which costs $50.

7. Completion of the Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in DIET2035, DIET2040, and/or DIET2045.

8. Completion and approval for clinical participation of the Minnesota Department of Human Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in DIET2035, DIET2040, and/or DIET2045.

9. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

10. Complete all required courses for the Dietetic Technician program with a grade of C or better.

PLEASE NOTE
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
DIET 1005	Life Cycle Nutrition	3
DIET 2000	Community Nutrition	3
DIET 2005	Food Prod & Science	4
DIET 2010	Sanitation & Safety	2
DIET 2015	Selection & Procurement	4
DIET 2020	Nutritional Care	3
DIET 2025	Medical Nutrition	4
DIET 2030	Food Service Management	4
DIET 2035	Community Practicum	2
DIET 2040	Clinical Practicum	4
DIET 2045	Management Practicum	4
HLTH 1126	Therapeutic Communication	2
MKTG 2120	Supervisory Leadership	3
BIOL 2131	Nutrition	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
CHEM 1020	Intro to Chemistry	4
ENGL 1111	Composition I	3
MATH 1110	College Algebra	3
PSYC 1105	Intro to Psychology	3
SOCI 1101	Intro to Sociology	3
	Total Credits	**67**

Early Childhood and Education

Early Childhood & Paraprofessional AS

60 Credits

EGF and Online

Program Description

This program includes coursework in the areas of child guidance, birth through adolescent development, children with special needs, as well as exploring the role of the paraprofessional and sign language. Graduates will independently provide a healthy, safe, and developmentally appropriate learning environment that supports children and families.

Child development courses in combination with general education courses comprise the Early Childhood & Paraprofessional degree program. The Early Childhood Program meets the educational requirements for Assistant Teacher and Paraprofessional in an educational setting. The program also allows graduates to work as Assistant Teacher and Teacher in a child care center setting, Family Child Care Provider, and Group Family Child Care Provider as listed in Minnesota Department of Human Services Rules Number 2 and 3. Work experience, in addition to a field experience course is also required by Rule 3 for positions in licensed child care facilities.

Individuals entering the program must complete background checks required by the Minnesota and North Dakota Board of Human Services licensing divisions. Individuals with any prior record of child maltreatment or crime of violence may participate in the program, but the student will not be allowed to participate in lab or field experience coursework.

Program Specific Requirements

1. All required courses for the program must be completed with a grade of C or better.
2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

   The college minimum scores for the Accuplacer Assessment test are as follows:

   Reading Comprehension-78
   Arithmetic-50
3. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in CDEV courses.
4. Refer to the Early Childhood & Paraprofessional Program Handbook for time limits on transfer of technical and general education credits and for specific program progression policies.

AS Required Courses

Course #	Course Title	Credits
CDEV 1105	Development/Guidance	3
CDEV 1107	Intro to Early Educ	3
CDEV 2200	Integrating Play	3
CDEV 2229	Imaginative Learning	3
CDEV 2236	Occupational Experience	1
CDEV 2238	Special Needs	3
CDEV 2240	Observing & Assessing	2
CDEV 2242	Infant/Toddler Program	3
CDEV 2244	Parent & Professional	3
CDEV 2246	Foundations of Literacy	3
CDEV 2252	Paraprofessional Role	1
CDEV 2290	Internship	2
ANTH 2202	Cultural Anthropology	3
ARTS 1101	Art Appreciation	3
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
HIST 2250	American Minorities	3
PHIL 1102	Intro to Ethics	3
PLSC 1103	State/Local Government	3
SOCI 1101	Intro to Sociology	3
SPCH 1101	Intro to Public Speaking	3
	G5: History/Social Elect (Below)	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
G5: History/Social Science Electives		
PSYC 1105	Intro to Psychology	3
PSYC 2201	Developmental Psychology	3

Electronics Technology

Electronics Technology – Automated Systems AAS

60 Credits

TRF Campus

Program Description

This program introduces students to the vast world of electronics. In the classroom, students participate in hands-on labs in which they connect circuits, use test equipment, and troubleshoot electronic circuits and systems. Basic electronic components such as resistors and capacitors and the laws that govern them will be analyzed. Students learn multiple computer software programs for the design, simulation, and programming of electronic devices including microcontrollers, robots and other automated equipment. Throughout the program student projects are assigned to encourage learners to practice previous concepts and acquire new knowledge and skills. This program provides a solid foundation for those entering the workforce as electronic, automation, and engineering technicians.

Select courses in this program may be offered online through Distance 360 as part of an Automation Technologies Certificate. This program has been developed in concert with business and industry partners. The program articulates into a related Bachelor's degree at Bemidji State University, the University of Minnesota Crookston, and Minnesota State University Moorhead.

Program Specific Requirements

None.

AAS Required Courses

Course #	Course Title	Credits
ETAS 1101	DC Power	3
ETAS 1103	AC Power	3
ETAS 1104	Analog Circuits	3
ETAS 1106	Digital Electronics	3
ETAS 1110	Elec Design & Fabrication	3
ETAS 1560	Robotic Programming I	2
ETAS 2220	Microcontrollers I	4
ETAS 2221	Sensor Technology	4
ETAS 2224	Program Logic Controllers	4
ETAS 2228	New & Emerging Technology	3
ETAS 2230	Motor Controls	3
ETAS 2232	Microcontrollers II	4
ETAS 2580	Hydraulics & Pneumatics	3
ENGL 1111	Composition I	3
ENGL 2207	Technical Writing	3
MATH 1110	College Algebra	3
	G5: History/Social Elect (Below)	3
	MN Transfer Curriculum Elec	3
	Area of Interest Electives (Below)	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
BUSN 1110	Intro to Business	3
CMAE 1522	Quality Practices	2
MKTG 1108	Customer Relations Mgmt	3
MKTG 2200	Prin of Marketing	3
	G5: History/Social Science Electives	
ECON 2201	Microeconomics	3
ECON 2202	Macroeconomics	3

Farm Operations Management

Farm Operations & Management Diploma

40 Credits

EGF Campus

Program Description

The program prepares students who are engaged in, or who are in the process of becoming established in, farming. As the business of farming continues to change, the challenge becomes one of finding the best source of good farm management education. The practical "hands on" applications taught in the Farm Operations and Management courses enable students to make sound management decisions based on financial analysis and production information, utilizing computer applications.

The program is scheduled for two abbreviated semesters from early November through late March for two consecutive years. This enables the students to be on the farm during the production year.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The minimum scores for the Accuplacer Assessment test for the Farm Operations and Management diploma program are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
AGRI 1104	Ag Economics	2
AGRI 1110	Farm Records & Budgeting	2
AGRI 1120	Crops Marketing I	2
AGRI 1130	Machinery Management	2
AGRI 1140	Cereal Production	2
AGRI 1150	Soil Maint & Fertility	3
AGRI 1160	Establishment in Farming	2
AGRI 2206	Rural Leadership	1
AGRI 2210	Farm Analysis & Finance	3
AGRI 2220	Crops Marketing II	2
AGRI 2230	Farmstead Improvement	2
AGRI 2240	Farm Computerized Records	1
AGRI 2250	Welding I	1
AGRI 2260	Agricultural Chemicals	2
AGRI 2280	Farm Tax/Estate Planning	3
AGRI 2290	Internship	1
CPTR 1104	Intro to Computer Tech	3
ENGL 1012	Applied Communications	3
	Area of Interest Electives (Below)	3
	Total Credits	**40**

Area of Interest Elective Course Options

Course #	Course Title	Credits
AGRI 1172	Corn Production	1
AGRI 1192	Soybean Production	1
AGRI 2202	Dry Bean Production	1
AGRI 2222	Sugar Beet Production	1

Firefighter - Paramedic

Firefighter – Paramedic AAS

74 Credits

EGF Campus

Program Description

Graduates of this Associate in Applied Science degree program will be qualified and skilled as entry level Firefighter/Paramedics. This program provides an opportunity for students to obtain basic and advanced instruction in firefighting, rescue, hazardous materials incident response and paramedic knowledge, skills and techniques. The Firefighter/Paramedic is a person who works in the exciting, expanding field(s) of Fire Protection Services and Emergency Medical Services (EMS). The program consists of general education and technical coursework, including classroom as well as technical hands-on training to enable the student to become familiar with all aspects of an entry level Firefighter/Paramedic. The specialization and advanced education and training in the care and transport of the critically ill and injured can mean the difference between life and death. A.A.S. degree graduates have enhanced potential for upward progression in the career of a Firefighter/Paramedic.

Program Specific Requirements

1. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in EMTP1130. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

2. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to the end of the first week of the EMTB1101.

3. Current Minnesota Emergency Medical Technician-Basic (EMT-B) certification is a prerequisite for the Paramedic Courses.

4. All required courses for the program must be completed with a grade of C or better.

5. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in EMTP1130.

6. All students must have structural firefighting personal protective equipment, which consists of a helmet, protective hood, coat, pants, gloves, and boots.

7. Admission into the Paramedic courses require the course application form to be completed and submitted to the program director in order to reserve a seat in the courses. The cover letter explains the application process.

8. Advanced Placement into the Firefighter-Paramedic Program will be evaluated on a case-by-case basis. Items that will be considered will include, but may not be limited to, prior Paramedic coursework complete, skill validations, clinical experiences and liberal arts coursework.

PLEASE NOTE
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
EMTP 1130	BLS Ambulance Clinical	1
EMTP 1200	Intro to EMS	1
EMTP 1205	EMS Trauma Care	1
EMTP 1210	EMS Pharmacology	1
EMTP 1215	EMS Med Emergencies	3
EMTP 1220	EMS Cardiac Care	1
EMTP 1225	EMS Special Populations	1
EMTP 1235	Paramedic Skills	2
EMTP 1240	Paramedic Assessment 1	2
EMTP 1300	Paramedic Clinical	5
EMTP 1305	Paramedic Field Experience	3
EMTP 1400	Paramedic Assessment 2	3
EMTP 1405	ACLS/PALS/PHTLS	3
EMTP 1415	FF/Paramedic Capstone	6
FIRE 1102	Firefighter Fitness	2
FIRE 1110	Firefighter Basic	6
FIRE 1150	HazMat Operational	2
FIRE 1165	Technical Rescue	2

FIRE	2208	Firefighter Practical	3
FIRE	2240	Company Functions	3
HLTH	1106	Medical Terminology	2
BIOL	2252	Anatomy & Phys I	3
BIOL	2254	Anatomy & Phys II	3
ENGL	1111	Composition I	3
ENGL	2207	Technical Writing	3
MATH	1110	College Algebra	3
		Total Credits	**74**

Fire Technology

Fire Technology AAS

62 Credits

EGF Campus

Program Description

The Fire Technology-AAS program provides an opportunity for students to obtain basic and advanced instruction in firefighting techniques, fire prevention, rescue, and management of fire services. The major also provides instruction to become involved in all phases of the decision-making process from entry level through the company officer level, focusing on improving productivity and safety. The program consists of approximately one-third general education and two-thirds technical coursework, including classroom as well as technical hands-on training to enable the student to become familiar with all aspects of firefighting from entry-level to advanced levels. Also included is an instructional area entitled-job skills. This instruction will be offered through students' local fire departments. Students who are not connected with a fire department will be assisted in finding a site.

Program Specific Requirements

1. All required courses for the program must be completed with a grade of C or better.

2. All students must have structural firefighting personal protective equipment, which consists of a helmet, protective hood, coat, pants, gloves, and boots.

3. Students must have an "eligible" status through the State Motor Vehicle Records Check system.

4. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to enrollment in FIRE courses.

5. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in FIRE courses.

6. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in FIRE courses.

PLEASE NOTE
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which WILL affect program progression and completion.

A blended site (some classes face-to-face and some classes distance) may be used for this program.

AAS Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
FIRE 1100	Intro to Fire Service	1
FIRE 1102	Firefighter Fitness	2
FIRE 1104	Job Skills	1
FIRE 1110	Firefighter Basic	6
FIRE 1112	Fire Apparatus	3
FIRE 1124	Fire Protection System	2
FIRE 1130	Rescue Theory & Practices	1
FIRE 1150	HazMat Operational	2
FIRE 1152	Building Construction	3
FIRE 1165	Technical Rescue	2
FIRE 2206	Inspection & Code Enforce	3
FIRE 2208	Firefighter Practical	3
FIRE 2230	Fire Investigation	2
FIRE 2240	Company Functions	3
FIRE 2250	Fire Instructor Basic	2
FIRE 2256	HazMat Technician	4
CHEM 1020	Intro to Chemistry	4
ENGL 1111	Composition I	3
ENGL 2207	Technical Writing	3
MATH 1110	College Algebra	3
SPCH 1103	Interpersonal Communication	3
	Total Credits	**62**

Fire Technology

Fire Service Preparation Certificate

18 Credits

EGF Campus

Program Description

The Fire Service Preparation certificate program provides an opportunity for students to obtain basic instruction in firefighting, rescue, and emergency medical care. The program meets the minimum entry-level requirements for most fire departments around the country. This certificate consists mostly of technical coursework and three credits of general education, providing for a focus of technical hands-on training to enable the student to become familiar with the entry-level aspects of the fire service.

Program Specific Requirements

1. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study prior to entering FIRE courses. Completion and approval for clinical participation of a National Background Study through Verified Credentials cost $50.

2. Students must have an "eligible" status through the State Motor Vehicle Records Check system.

3. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to the end of the first week of EMTB1101.

4. All required courses for the program must be completed with a grade of C or better.

5. Completion of the College Health Screening & Immunization form prior to enrollment in EMTP1130.

6. All students must have structural firefighting personal protective equipment, which consists of a helmet, protective hood, coat, pants, gloves, and boots.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-46
Arithmetic-50

PLEASE NOTE
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which WILL affect program progression and completion.
A blended site (some classes face-to-face and some classes distance) may be used for this program.

Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
FIRE 1100	Intro to Fire Service	1
FIRE 1102	Firefighter Fitness	2
FIRE 1110	Firefighter Basic	6
FIRE 1130	Rescue Theory & Practices	1
FIRE 1150	HazMat Operational	2
	Total Credits	**18**

Fire Technology

Advanced Rescue Certificate

18 Credits

EGF Campus

Program Description

The Rescue Technician certificate program provides an opportunity for students to obtain basic and advanced instruction in technical rescue. The areas include Vehicle Extraction, Trench Rescue, High and Low Angle Rope Rescue, Water and Ice Rescue, Confined Space Rescue and Structural Collapse Rescue. The program meets the minimum requirements for a Rescue Technician as outlined by the National Fire Protection Association. This certificate consists of technical coursework, providing a focus on technical hands-on training to enable the student to become familiar with basic and advanced level aspects of the technician rescue field for the fire service.

Program Specific Requirements

1. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study prior to entering FIRE courses. Completion and approval for clinical participation of a National Background Study through Verified Credentials cost $50.

2. Students must have an "eligible" status through the State Motor Vehicle Records Check system.

3. All required courses for the program must be completed with a grade of C or better.

4. Completion of the College Health Screening & Immunization form prior to enrollment in FIRE courses.

5. All students must have structural firefighting personal protective equipment, which consists of a helmet, protective hood, coat, pants, gloves, and boots.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-46
Arithmetic-50

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which WILL affect program progression and completion.

A blended site (some classes face-to-face and some classes distance) may be used for this program.

Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
FIRE 1130	Rescue Theory & Practices	1
FIRE 1165	Technical Rescue	2
FIRE 2263	Adv Vehicle/H2O Rescue	3
FIRE 2265	Adv Trench/Struc Rescue	3
FIRE 2267	Adv Con Space/Rope Rescue	3
	Total Credits	**18**

Health Sciences

Health Sciences Broad Field AS

60 Credits

EGF, TRF Campuses and Online

Program Description

Northland's Health Sciences Broad Field Associate in Science program prepares students for transfer to a variety of health and human service related baccalaureate degree programs. Examples include, but are not limited to nursing, social work, nutrition, corrections, health education, and exercise science. This program positions a student for pursuit of these and other high demand health and human service careers.

The curriculum includes instruction in the basic sciences and aspects of the subject matter related to various health occupations. Students completing the Health Sciences Broad Field Associate in Science degree can take advantage of several statewide articulation agreements with Minnesota State Universities and should work with an advisor in identifying these opportunities. In addition, if a student were to decide prior to their final semester of enrollment that an Associate of Arts degree would better fit their transfer needs, they may be able to complete this degree by making minor changes to their curriculum.

Program Specific Requirements

While the Health Sciences Broad Field does not require it, some health sciences programs may require a C or better in all coursework in order to graduate from that program. Check specific program for requirement details.

AS Required Courses

Course #	Course Title	Credits
ANTH 2202	Cultural Anthropology	3
BIOL 1111	Biological Prin I	4
BIOL 2131	Nutrition	3
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
BIOL 2256	Advanced Physiology	2
CHEM 2205	Survey Gen/Org/Bio Chem	4
ENGL 1111	Composition I	3
HLTH 1106	Medical Terminology	2
HLTH 2002	Pharmacology	2
MATH 1110	College Algebra	3
MATH 2203	Statistics	4
PSYC 1105	Intro to Psychology	3
PSYC 2201	Developmental Psychology	3
SOCI 1101	Intro to Sociology	3
SPCH 1101	Intro to Public Speaking	3
	G6: Human/Fine Arts Elective	3
	Area of Interest Electives	6
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
BIOL 1112	Biological Prin II	4
EMTB 1101	Emergency Medical Tech	6
HLTH 1101	Intro Health Professions	3
HLTH 1108	Cultural Diversity	1
HLTH 1110	Nursing Assistant	3
HLTH 1140	Electronic Health Records	3
HLTH 2208	Pathophysiology	3
HPER 2250	Prevent/Care Athletic Inj	3
HPER 2270	Health and Wellness	3
OTAC 1001	Intro to OT	2
RADT 1110	Intro Rad Tech/Pat Care	3
RESP 1110	Adult Critical Care	4
SPCH 2205	Intercultural Communication	3
SURT 1102	Intro to Surgical Tech	2
	G6: Human/Fine Arts Electives	
PHIL 1102	Intro to Ethics	3
PHIL 2210	Morals and Medicine	3

Heating Ventilation & Air Conditioning

Heating, Ventilation, & Air Conditioning/Construction Plumbing AAS

70 Credits

EGF Campus

Program Description

The program prepares students to begin a career in Heating, Ventilation, Air Conditioning and Plumbing. Coursework provides a technical understanding of HVAC and Plumbing technology and prepares students with the practical skills to install, maintain, and troubleshoot such systems. The program prepares students in blueprint reading and sketching; design, fabrication, and installation of forced air and hot water heating and ventilation systems; installation of a wide range of oil and gas boilers and forced-air furnaces; installation of water systems, piping procedures, plumbing and piping systems in residential and commercial settings. Successful graduates are eligible for employment in a variety of businesses found in rural and metropolitan areas. Successful graduates are further eligible for employment at an advanced plumbing apprenticeship level.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78

AAS Required Courses

Course #	Course Title	Credits
BLDG 1102	Construction Safety	1
BLDG 1106	Grades/Cap/Elec Calc	3
BLDG 1114	Blueprint Reading I	2
HEAT 1101	HVAC Circuit Theory	4
HEAT 1102	Sheet Metal Design	3
HEAT 1104	Control Electricity	2
HEAT 1110	Refrig, A/C & Htg Prin	3
HEAT 1128	Heat Sys Design & Install	3
HEAT 2202	Air Handling	2
HEAT 2206	Heating Sys Maintenance	2
HEAT 2210	Com Air Conditioning	2
HEAT 2214	Hydronic Heating Sys	4
HEAT 2220	HVAC Troubleshooting	3
PLBG 1104	Bldg Sewers/Drainage Sys	3
PLBG 1108	Plumbing/Piping Drawings	2
PLBG 1110	Copper Pipe Procedures	2
PLBG 1112	Plastic Pipe Procedures	2
PLBG 1114	Steel Pipe Procedures	3
PLBG 1116	Plumbing Theory/Sys	3
PLBG 1118	State Plbg Code Interpret	1
PLBG 1120	Residential Plbg Install	3
PLBG 1122	Plbg Repair/Service Work	2
ENGL 1111	Composition I	3
PHIL 1102	Intro to Ethics	3
	MN Transfer Electives	9
	Total Credits	**70**

Heating Ventilation & Air Conditioning

Heating, Ventilation, & Air Conditioning Diploma

37 Credits

EGF Campus

Program Description

The HVAC - Heating, Ventilation, and Air Conditioning graduate will be able to design residential and light commercial central heating and air conditioning systems according to load requirements, install, troubleshoot, and repair all residential and light commercial heating and air conditioning equipment, design, fabricate, and install forced air and hot water distribution systems using sheet metal, duct board, copper tubing, Wirsbo tubing, Pex tubing, PVC , and other accepted materials, install a wide range of oil and gas boilers and forced-air furnaces, design, fabricate, and install home and light commercial ventilation systems, including both exhaust and fresh air make-up exchangers.

The graduate will be knowledgeable in electric theory, motor and heating-air conditioning controls and switching relays, pumps, compressors, various design variables, and code requirements. This comprehensive program of technical and general education will give the graduate knowledge and hands-on experience in both the electrical and mechanical aspects of heating, ventilation and air conditioning. This combination prepares students to build and install ductwork, and the ability to troubleshoot today's sophisticated high-efficiency heating units.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension:-46

Required Courses

Course #	Course Title	Credits
BLDG 1102	Construction Safety	1
BLDG 1106	Grades/Cap/Elec Calc	3
BLDG 1114	Blueprint Reading I	2
HEAT 1101	HVAC Circuit Theory	4
HEAT 1102	Sheet Metal Design	3
HEAT 1104	Control Electricity	2
HEAT 1110	Refrig, A/C & Htg Prin	3
HEAT 1128	Heat Sys Design & Install	3
HEAT 2202	Air Handling	2
HEAT 2206	Heating Sys Maintenance	2
HEAT 2210	Com Air Conditioning	2
HEAT 2214	Hydronic Heating Sys	4
HEAT 2220	HVAC Troubleshooting	3
	Area of Interest Elec (Below)	3
	Total Credits	**37**

Area of Interest Elective Course Options

Course #	Course Title	Credits
SSCI 1101	Human Relations	3
	MN Transfer Elective	3

Imagery Analysis

Geospacial Intelligence Analysis AAS

60 Credits

TRF Campus, Online

Program Description

The AAS Degree will prepare students to manage the tasking, processing, exploitation, and dissemination (TPED) process, conduct end to end Geospatial Intelligence (GEOINT) operations, and create a geospatially prepared environment in which visualization products can be used by decision makers to answer priority information requirements.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension: 64
Arithmetic: 50

AAS Required Courses

Course #	Course Title	Credits
GINT 2300	GEOINT Analysis	4
GINT 2301	GEOINT Collection Mgmt	4
GINT 2400	Open Source Collection Mgmt	5
GINT 2402	GEOINT Operations	5
GINT 2403	GIS Interoperability	3
IMAG 1100	Imagery Intelligence	3
IMAG 1101	Remote Sensing	3
IMAG 1103	Imagery Software/Mapping	4
IMAG 2100	Writing/Presentation	4
IMAG 2102	Practical IA	5
IMAG 2305	Practical Imagery Applic	4
MATH 1102	Contemporary Math	3
NSCI 1103	Geology	4
ANTH 2202	Cultural Anthropology	3
ENGL 1111	Composition I	3
JOUR 1101	Mass Communications	3
	Total Credits	**60**

Imagery Analysis

Imagery Analysis Certificate

30 Credits

TRF Campus, Online

Program Description

The Imagery Analysis certificate will concentrate on distinguishing imagery from various platforms and sensors, conventional imagery exploitation techniques, and imagery interpretation principles. Students will identify key features and obtain precise measurements within the area of interest, integrate and interpret maps and charts as they relate to imagery, and develop imagery information dissemination skills. Students will acquire a variety of skills ranging from UAS general knowledge to a precise depiction of the imagery objective. Students receive hands-on training varying from still satellite imagery to Full Motion Video UAS derived imagery.

This program is designed to prepare students to analyze, interpret, and communicate vital imagery information taken from a variety of sensors and present them in a professional, comprehendible manner to decision makers in both the government and civilian sector.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
IMAG 1100	Imagery Intelligence	3
IMAG 1101	Remote Sensing	3
IMAG 1103	Imagery Software/Mapping	4
IMAG 2100	Writing/Presentation	4
IMAG 2102	Practical IA	5
IMAG 2305	Practical Imagery Applic	4
NSCI 1103	Geology	4
JOUR 1101	Mass Communications	3
	Total Credits	**30**

Liberal Arts

Associate of Arts (AA) Degree

60 Credits

EGF, TRF Campuses and Online

The Liberal Arts and Transfer Program provides the first two years of most baccalaureate degrees and are designed for transfer to a four-year institution. Students who complete the Associate in Arts degree at Northland, which includes the Minnesota Transfer Curriculum, are assured of seamless transfer into Minnesota State Colleges and Universities, as well as into the University of Minnesota system, and usually are accepted into most out-of-state colleges including the University of North Dakota. Northland identifies three pathways to the Associate in Arts degree. These pathways are intended as guides to help students attain their goal of a Transfer Degree that meets their anticipated goals in attaining a baccalaureate degree at a four year institution. In addition, two of the five Associate in Science degrees have transfer as a central focus.

Liberal Arts Has A Three-Fold Purpose:

- 1 It is designed to provide students with the coursework necessary for transfer to four-year institutions throughout the nation.
- 2 It has at its basis the universal principle that the liberal arts teaches people how to think and, consequently, how to learn.
- 3 It enables students to develop critical thinking skills that they can use to formulate their own ideas and, thus, become actively engaged in the learning process.

General Education Philosophy

- The purpose of General Education at Northland Community & Technical College is to establish a foundation of broad-based learning that exposes learners to a diversity of views and attitudes, which enhance the intellectual capacity to be active participants in a global, diverse society.
- In addition to serving as part of an Associate in Arts degree, general education courses support technical programs in personal and professional development in the pursuit of life-long learning.

Minnesota Transfer Curriculum

The Minnesota Transfer Curriculum contains the minimum number of credits (40) needed to complete the general education requirements at all of the public colleges and universities in Minnesota. These 40 credits must be completed in 10 goal areas and with a minimum 2.0 GPA. Completion of a defined transfer curriculum at one institution enables a student to receive credit for all lower-division courses, upon admission to most other institutions. All of the Minnesota Transfer Curriculum courses, offered by Northland, will transfer within the Minnesota State Colleges and Universities system and the University of Minnesota system, in the goal areas designated by Northland. The remaining 20 of the 60 credits of the Associate in Arts degree can allow a student to individualize their studies.

Please visit the Minnesota Transfer web site for more information about transfer in Minnesota.

Associate of Arts Pathways:

- Communications & Humanities
- Science, Technology, Engineering, & Mathematics
- Social & Behavioral Sciences

(Continued next page)

Liberal Arts

Associate of Arts (AA) Degree

Communications & Humanities Pathway

60 Credits

EGF, TRF Campuses and Online

Program Description

The Communications & Humanities pathway is for those students who anticipate pursuing baccalaureate degrees in communications, journalism, or the humanities (for example art, literature, history, philosophy, or music). This pathway also prepares students to pursue professions in business or law.

The flexibility of the Associate in Arts degree allows 19 elective credits. Up to sixteen of those credits could be from occupational and/or professional courses; allowing a student interested in business, for example, to augment their studies with courses from our business programs.

AA Required Courses

Course #	Course Title	Credits
FYEC 1110	Pathways to Success	1
	MN Transfer Electives	40
	Area of Interest Electives	19
	Total Credits	**60**

Communications & Humanities Area of Interest Elective Course Options

Course #	Course Title
	G1: Communication Electives
	G5: History/Social Electives
	G6: Human/Fine Arts Electives
	G7: Human Diversity Electives
	G8 Global Perspective Electives
	G9: Ethics/Civic Responsibility Electives

Liberal Arts

Associate of Arts (AA) Degree

Science, Technology, Engineering, & Mathematics Pathway

60 Credits

EGF, TRF Campuses and Online

Program Description

The Science, Technology, Engineering, & Mathematics pathway is for those students who anticipate pursuing baccalaureate degrees in STEM areas. In addition to the specific sciences (e.g. biology, chemistry, physics) and mathematics, this pathway prepares students to pursue professions in technology or engineering.

Technology and Engineering cover a broad range of careers, ranging from healthcare to electronics, from work in research laboratories to work in information technology. The flexibility of the Associate in Arts degree allows 19 elective credits. Up to sixteen of those credits can be from occupational and/or professional courses; allowing a student interested in STEM to augment their studies with courses from our many technical programs at Northland, particularly those in healthcare, computer networking, transportation, architecture, and/or construction.

AA Required Courses

Course #	Course Title	Credits
FYEC 1110	Pathways to Success	1
	MN Transfer Electives	40
	Area of Interest Electives	19
	Total Credits	**60**

Science, Technology, Engineering, & Mathematics Area of Interest Elective Course Options

Course #	Course Title
	G3: Natural Science Electives
	G4: Math/Logical Electives
	G10: People & Environment Electives

Liberal Arts

Associate of Arts (AA) Degree

Social & Behavioral Sciences Pathway

60 Credits

EGF, TRF Campuses and Online

Program Description

This pathway is for those students who anticipate pursuing baccalaureate degrees in the social sciences (e.g. sociology, psychology, political science, anthropology). This pathway also prepares students to pursue professions in social work, counseling, law, or public service for example. The flexibility of the Associate in Arts degree allows 19 elective credits. Up to sixteen of those credits could be from occupational and/or professional courses; allowing a student interested in law, for example, to augment their studies, with courses from our business programs (such as Business Law).

AA Required Courses

Course #	Course Title	Credits
FYEC 1110	Pathways to Success	1
	MN Transfer Electives	40
	Area of Interest Electives	19
	Total Credits	**60**

Social & Behavioral Sciences Area of Interest Elective Course Options

Course #	Course Title
	G5: History/Social Electives
	G7: Human Diversity Electives
	G8: Global Perspective Electives
	G9: Ethics/Civic Responsibility Electives

Manufacturing

Manufacturing Process Technology AAS

60 Credits

EGF Campus

Program Description

The Manufacturing Process Technology Program prepares students for technical careers in the manufacturing industry. Today's manufacturing companies look to automated equipment to increase quality and productivity. As a result careers in manufacturing demand strong technical competencies in mechanical, electrical, hydraulic and robotic systems. Courses in this program emphasize hands-on training on industrial equipment. Graduates of this program are prepared for jobs as process, maintenance, engineering, and quality control technicians.

Program Specific Requirements

None.

AAS Required Courses

Course #	Course Title	Credits
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
ETAS 1105	Applied Electronics	3
ETAS 1560	Robotic Programming I	2
ETAS 2224	Program Logic Controllers	4
ETAS 2230	Motor Controls	3
ETAS 2580	Hydraulics & Pneumatics	3
MAPT 1101	Manufacturing Cmptr Apps	2
MAPT 1110	Mechanical Systems I	3
MAPT 2110	Mechanical Systems II	3
MAPT 2200	Fabrication Techniques	4
MAPT 2400	Quality & Lean Manufacturing`	4
MAPT 2585	Adv Hydraulic & Pneumatic	3
ENGL 1111	Composition I	3
ENGL 2207	Technical Writing	3
SPCH 1103	Interpersonal Communication	3
	G4: Math/Logical Elective	3
	G5: History/Social Elective	3
	Area of Interest Electives	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
MAPT 2800	Automated Systems	3
MAPT 2900	Manufacturing Internship	3
WELD 1102	Weld Fundamentals	3
	G4: Math/Logical Reasoning Electives	
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3
	G5: History/Social Science Electives	
PSYC 1105	Intro to Psychology	3
SOCI 1101	Intro to Sociology	3

Manufacturing

Certified Production Technician Certificate

8 Credits

EGF, TGF Campuses

Program Description

This short certificate combines four classes, for a total of eight credits, for a credential that meets requirements outlined by the Manufacturing Skill Standards Council (MSSC) Certified Production Technician program. This certificate prepares students for entry level employment in manufacturing careers. The Manufacturing Process Technology Program prepares students for technical careers in the manufacturing industry.

AAS Required Courses

Course #	Course Title	Credits
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
	Total Credits	**8**

Program Specific Requirements

None.

Manufacturing

Automation Technologies Certificate

30 Credits

Online only.

Program Description

This 30 credit certificate offers courses designed to start students on a career pathway in automation technologies. Building off the seven courses in Production Technologies focusing on core skills, students build an advanced automation skill set with hands-on experience in:

- AC Power
- Digital electronics
- Analog circuits
- Motor controls

If you have completed the Production Technologies Certificate, you only have five additional courses to complete. Along with the core knowledge provided by the production technology courses, you will gain skills that provide you with the abilities and knowledge to work in automation.

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
CMAE 1502	Technical Mathematics	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1550	DC Power	3
CMAE 1552	AC Power	3
CMAE 1554	Digital Electronics	3
CMAE 1556	Analog Circuits	3
CMAE 1558	Motor Controls	3
	Total Credits	**30**

Manufacturing

Machine Technology Certificate

30 Credits

Online only.

Program Description

The 30 credit Machine Technologist Certificate offers seven production technology courses that provide core skills and seven courses with advanced machining skill topics and hands-on experience, including:

- Machine tool print reading
- Machine tool technology theory and lab principles
- Machining math
- Introduction to computer numerical control (CNC)
- Geometric dimensioning and tolerancing

If you have completed the seven courses in the Production Technologies Certificate, you only have seven additional courses to complete. Along with the core knowledge provided by the production technology courses, you'll gain skills that provide you with the abilities and knowledge to work in machining.

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
CMAE 1502	Technical Mathematics	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1530	Machining Math	2
CMAE 1532	Machine Tool Print Reading	2
CMAE 1534	Machine Tool Tech Theory	2
CMAE 1536	Machine Tool Tech Lab 1	2
CMAE 1538	Machine Tool Tech Lab 2	2
CMAE 1540	Intro to CNC	3
CMAE 1542	Geometric Dimensioning	2
	Total Credits	**30**

Manufacturing

Production Technologies Certificate

16 Credits

Online only.

Program Description

This 16 credit certificate introduces students to production technologies and information to start on a manufacturing career pathway. In the eight courses, topics include:

- Technical mathematics
- Introductory computer skills
- Print interpretation
- Manufacturing processes
- Quality control
- Maintenance
- Safety
- Career Success Skills

These classes are entirely online and do not require any on-site lab work.

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
CMAE 1502	Technical Mathematics	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1528	Career Success Skills	1
	Total Credits	**16**

Manufacturing

Welding Technology Certificate

30 Credits

Online only.

Program Description

This 30 credit certificate will introduce you to production and welding technologies. In addition to receiving a foundation in Production Technologies, you will complete six advanced welding skill courses that include:

- Interpreting symbols and welding
- OxyFuel
- SMAW (shielded metal arc welding)
- GMAW (gas metal arc welding; MIG)
- FCAW (flux cored arc welding)
- GTAW (gas tungsten arc welding; TIG)
- Metallurgy
- Hands-on experience with specific welding processes

If you have completed the seven courses in the Production Technologies Certificate, you only have five courses to complete. Along with the core knowledge provided by the production technology courses, you will gain skills that provide you with the abilities and knowledge to work in welding.

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
CMAE 1502	Technical Mathematics	3
CMAE 1506	Intro to Computers	2
CMAE 1510	Print Reading	2
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CMAE 1560	Interpreting Symbols	2
CMAE 1562	Oxyfuel Welding	3
CMAE 1564	Shielded Metal Arc Welding	3
CMAE 1566	Gas Metal Arc Weld/Flux C	3
CMAE 1568	Gas Tungsten Arc Welding	3
CMAE 1570	Metallurgy	1
	Total Credits	**30**

Medical Administrative

Medical Administrative Assistant AAS

60 Credits

Online only.

Program Description

Medical Administrative Assistant graduates are prepared to assume many of the same responsibilities as medical secretaries. In addition, medical administrative assistants have education in topics relating to medical office management.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

The program requires students to have current working knowledge of specific required technical courses. Courses older than 5 years will not be accepted for transfer into the program:

ADMM 1110	Intro Hlth Info Mgmt
ADMM 1120	Medical Office Procedures
ADMM 1130	Medical Transcription
ADMM 1135	Medical Language Applications
ADMM 1150	Medical Billing/Insurance
ADMM 1160	CPT/HCPCS Coding
ADMM 1165	ICD Coding
BIOL 2252	Anatomy & Physiology I
BIOL 2254	Anatomy & Physiology II
CPTR 1104	Intro to Computers
HLTH 1106	Medical Terminology
HLTH 1140	Electronic Health Records
HLTH 2002	Pharmacology

Computer required. Web cam and online proctoring fees may apply.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

AAS Required Courses

Course #	Course Title	Credits
ADMM 1110	Intro to Health Info Mgmt	3
ADMM 1120	Medical Office Procedures	3
ADMM 1135	Medical Language Applic	4
ADMM 1150	Medical Billing/Insurance	3
ADMM 1160	CPT/HCPCS Coding	3
ADMM 1165	ICD Coding	3
ADMM 2280	Medical Office Simulation	3
ADMS 1100	Keyboarding I	3
ADMS 1116	Business Communications	3
CPTR 1104	Intro to Computer Tech	3
CRLT 2103	Job Seeking/Keeping	1
HLTH 1106	Medical Terminology	2
HLTH 1140	Electronic Health Records	3
HLTH 2002	Pharmacology	2
HLTH 2208	Pathophysiology	3
MKTG 2120	Supervisory Leadership	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
PHIL 2210	Morals and Medicine	3
	G1: Communication Elective	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G1: Communication Electives	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3

Medical Administrative

Medical Office Specialist Diploma

45 Credits

Online only.

Program Description

Graduates 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 office specialists have excellent communication skills and exhibit a high degree of professionalism in their work. Emphasis areas available in the major include medical insurance/coding and medical transcription.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

The program requires students to have current working knowledge of specific required technical courses. Courses older than 5 years will not be accepted for transfer into the program:

ADMM 1110	Intro Hlth Info Mgmt
ADMM 1120	Medical Office Procedures
ADMM 1130	Medical Transcription
ADMM 1135	Medical Language Applications
ADMM 1150	Medical Billing/Insurance
ADMM 1160	CPT/HCPCS Coding
ADMM 1165	ICD Coding
BIOL 2252	Anatomy & Physiology I
BIOL 2254	Anatomy & Physiology II
CPTR 1104	Intro to Computers
HLTH 1106	Medical Terminology
HLTH 1140	Electronic Health Records
HLTH 2002	Pharmacology

Computer required. Web cam and online proctoring fees may apply.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Required Courses

Course #	Course Title	Credits
ADMM 1110	Intro to Health Info Mgmt	3
ADMM 1120	Medical Office Procedures	3
ADMM 1135	Medical Language Applic	4
ADMM 1150	Medical Billing/Insurance	3
ADMM 1160	CPT/HCPCS Coding	3
ADMM 1165	ICD Coding	3
ADMM 2280	Medical Office Simulation	3
ADMS 1100	Keyboarding I	3
ADMS 1116	Business Communications	3
CPTR 1104	Intro to Computer Tech	3
HLTH 1106	Medical Terminology	2
HLTH 1140	Electronic Health Records	3
HLTH 2208	Pathophysiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
	Total Credits	**45**

Medical Administrative

Patient Access Specialist Certificate

27 Credits

Online only.

Program Description

This program prepares students to be trained specialists who handle patient encounters, patient customer service, and other areas related to the intake and processing of the patient's healthcare experience. Key topics include customer service, patient check-in, admission, registration, revenue cycle and information systems, telephone communications, scheduling, coordinating, canceling appointments, and other relevant topics.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

The program requires students to have current working knowledge of specific required technical courses. Courses older than 5 years will not be accepted for transfer into the program:

ADMM 1110	Intro Hlth Info Mgmt
ADMM 1120	Medical Office Procedures
ADMM 1135	Medical Language Applications
ADMM 1150	Medical Billing/Insurance
CPTR 1104	Intro to Computers
HLTH 1106	Medical Terminology
HLTH 1140	Electronic Health Records

Computer required. Web cam and online proctoring fees may apply.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Required Courses

Course #	Course Title	Credits
ADMM 1110	Intro to Health Info Mgmt	3
ADMM 1120	Medical Office Procedures	3
ADMM 1135	Medical Language Applic	4
ADMM 1150	Medical Billing/Insurance	3
ADMS 1100	Keyboarding I	3
CPTR 1104	Intro to Computer Tech	3
HLTH 1106	Medical Terminology	2
HLTH 1140	Electronic Health Records	3
MKTG 1108	Customer Relations Mgmt	3
	Total Credits	**27**

Medical Coding

Medical Coding Specialist AAS

60 Credits

Online only.

Program Description

The Medical Coding Specialist program prepares students in many of the procedures associated with billing for medical services. Students receive training in medical billing processes including patient account management, diagnosis and procedure coding and medical insurance claim processing.

Thorough understanding of medical terminology, human anatomy and physiology and human disease conditions is necessary for anyone working in this field. Medical coding involves using nationally-recognized coding systems to classify procedures and diagnoses related to medical treatment. These codes provide information that is used in insurance claims processing.

Many different types of insurance programs are handled in the medical office. Students will examine insurance programs/plans such as Medicare, Medicaid & TRICARE, profit and non-profit third-party payers, workers' compensation packages and disability coverage.

Graduates of the program may be eligible to take one of the national coding certification exams.

Program Specific Requirements

All required courses must be completed with a grade of C or better to graduate.

The program requires students to have current working knowledge of specific required technical courses. Courses older than 5 years will not be accepted for transfer into the program:

ADMM 1110	Intro Hlth Info Mgmt
ADMM 1120	Medical Office Procedures
ADMM 1130	Medical Transcription
ADMM 1135	Medical Language Applications
ADMM 1150	Medical Billing/Insurance
ADMM 1160	CPT/HCPCS Coding
ADMM 1165	ICD Coding
ADMM 2240	Medical Coding Ethics
ADMM 2250	Hospital Billing
ADMM 2260	Int CPT/HCPCS Coding
ADMM 2265	Int ICD Coding
ADMM 2285	Coding Certification Review
BIOL 2252	Anatomy & Physiology I
BIOL 2254	Anatomy & Physiology II
CPTR 1104	Intro to Computers
HLTH 1106	Medical Terminology
HLTH 1140	Electronic Health Records
HLTH 2002	Pharmacology

Computer required. Web cam and online proctoring fees may apply.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

(Continued next page)

AAS Required Courses

Course #	Course Title	Credits
ADMM 1110	Intro to Health Info Mgmt	3
ADMM 1135	Medical Language Applic	4
ADMM 1150	Medical Billing/Insurance	3
ADMM 1160	CPT/HCPCS Coding	3
ADMM 1165	ICD Coding	3
ADMM 2240	Medical Coding Ethics	3
ADMM 2250	Inpatient Billing	3
ADMM 2260	Interm CPT/HCPCS Coding	3
ADMM 2265	Interm ICD Coding	3
ADMM 2285	Certification Review	3
CPTR 1104	Intro to Computer Tech	3
HLTH 1106	Medical Terminology	2
HLTH 1108	Cultural Diversity	1
HLTH 1140	Electronic Health Records	3
HLTH 2002	Pharmacology	2
HLTH 2208	Pathophysiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
	G1: Communication Elective	3
	G5: History/Social Elective	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G1: Communication Electives	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3
	G5: History/Social Science Electives	
PSYC 1105	Intro to Psychology	3
PSYC 2201	Developmental Psychology	3

Nursing

Nursing AS

64 Credits

EGF, TRF Campuses.

Program Description

The AD Mobility Nursing program educates Licensed Practical Nurses (LPNs) for the role of Registered Nurse (RN). The RN role includes a broad area of human service aimed at assisting the client in attaining the highest level of health possible. Students learn how to assess, collect, and contribute to client data based on physiological, developmental, sociocultural, psychological, and spiritual needs. Students learn to provide nursing interventions to the client and significant others throughout the health-illness continuum. Students learn how to develop and implement individualized teaching plans in order to restore, maintain, and promote health. Students in the AD Mobility Nursing Program learn how to delegate, interact, and provide leadership for other members of the health team.

Practical Nursing graduates are awarded 13 PN credits towards the first year of the AD Mobility Nursing Program. After prerequisites are met, students can complete the full time program in 2 semesters (fall and spring) and the part-time program in 3 semesters (spring, fall, and spring). Students are then eligible to apply to take the national licensing examination to become a Registered Nurse (RN). Graduates of the AD Mobility Nursing Program may articulate to a Bachelor of Science degree in Nursing.

Program Specific Requirements

1. Application to the AD Mobility Nursing Program

Apply to Northland Community & Technical College - If you have never been a student at NCTC, then you must apply to NCTC before completing the application to the AD Mobility Nursing Program.

Apply to the AD Mobility Nursing Program - Once a student has been accepted to the college, he/she can then apply as a candidate for the AD Mobility Nursing Program. Applications must be received between October 1 and February 28 to be considered for priority admission for the fall full time program and between March 1 and September 30 to be considered for priority spring part-time program. Students applying for admission to the AD Mobility Nursing Program are chosen competitively.

2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. Arithmetic assessment score greater than or equal to 50 and an Elementary Algebra assessment score greater than or equal to 60. Or MATH 0090 or higher level course.

3. Students must complete the following courses prior to applying for the AD Mobility Nursing Program:

- BIOL 2221 Microbiology
- BIOL 2252 Anatomy & Physiology I
- BIOL 2254 Anatomy & Physiology II
- ENGL 1111 Composition I
- PSYC 2201 Developmental Psychology
- To increase your selection probability into the AD Mobility Nursing Program, plan ahead. Concentrate on performing well in your science classes. Complete the co-requisite sciences and other co-requisite courses early. Co-requisite courses:
- BIOL 2256 Advanced Physiology -- You receive an extra point towards admission.
- CHEM 2205 Survey General/Organic/Bio Chemistry -- You receive 3 extra points towards admission **only** if you take **NCTC CHEM 2205** rather than an alternative chemistry.
- SPCH 1101 Intro to Public Speaking
- MN Transfer Curriculum Area G6: Any Humanities/Fine Arts Elective
- History/Social Science -- choose 1 of the following: ANTH 2202 Cultural Anthropology, PSYC 2215 Abnormal Psychology, SOCI 1101 Intro to Sociology

For information on program selection criteria, review AD Mobility Student Policy Handbook.

4. Students must have evidence of IV Certification competency through one of the following:

(Continued next page)

- An Intravenous Therapy Course documented on a transcript.
- A certification of completion of an approved state board of nursing IV course.
- Documentation from an employer that the student is competent in IV technical skills.

5. All students must maintain a current Practical Nursing license. New PN graduates that graduate the month prior to the start of the AD-PN Mobility Nursing Program have 6 weeks from the start of the semester to obtain their licensure.
6. Current CPR certification. CPR for Health Care Providers (America Heart Association) or CPR for Professional Rescuer (Red Cross).
7. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10). Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).
8. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35).
9. Nursing students must take the NACE I Foundations of Nursing Entrance Exam prior to the application deadline for the cohort they are applying to. NACE I Foundations of Nursing has individual questions involving clients with common health problems. The nursing process (assessing, analyzing, planning, implementing and evaluating) is applied in items throughout the test. The questions include a sample of situations involving clients in health care settings with one or more of several conditions. See specific information available in the program handbook and selection criteria packet.
10. All required courses for AD Mobility Nursing Program must be completed with a grade of C or better. Chemistry 2205 - Survey of Chemistry or other college level chemistry MUST BE successfully completed PRIOR to enrolling in your last semester of nursing courses.
11. All AD Mobility Nursing courses are internet assisted. Access to a computer and the internet is required for this program.
12. Required a 2.5 GPA (cumulative) for program entrance and required a student to be in good academic standing.

PLEASE NOTE:
There is not a guarantee that a program cohort will start every semester on each site. Pending enrollment numbers, if a cohort does not start on your site of choice, you may be offered a space in the other cohort site. Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which WILL affect program progression and completion.

AS Required Courses

Course #	Course Title	Credits
#PN13	Practical Nursing credits	13
NURS 2110	Health Assess/Prof Skills	3
NURS 2121	Psychosocial Integrity	2
NURS 2123	Nursing Interventions I	3
NURS 2125	Clinical I	4
NURS 2131	Nursing Interventions II	3
NURS 2133	Professional Role	2
NURS 2135	Clinical II	4
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
BIOL 2256	Advanced Physiology	2
CHEM 2205	Survey Gen/Org/Bio Chemistry	4
ENGL 1111	Composition I	3
PSYC 2201	Developmental Psychology	3
SPCH 1101	Intro to Public Speaking	3
	G5: History/Social Electives	3
	G6: Human/Fine Arts Electives	3
	Total Credits	64

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Area of Interest Elective Course Options

Course #	Course Title	Credits
	G5: History/Social Electives	
ANTH 2202	Cultural Anthropology	3
PSYC 2215	Abnormal Psychology	3
SOCI 1101	Intro to Sociology	3
	G6: Human/Fine Arts Electives	
PHIL 1102	Intro to Ethics	3
PHIL 2210	Morals and Medicine	3

Nursing

Practical Nursing Diploma

44 Credits

EGF, TRF Campuses and Online.

Program Description

Nursing is a growing field with multiple career opportunities. Practical Nursing is designed to provide the knowledge and skills necessary for students to enter the world of nursing. Licensed Practical Nurses (LPN) may provide care for persons of all ages in a variety of settings including hospitals, clinics, nursing homes, home care, hospice, camp nursing and occupational nursing.

Students in the Practical Nursing program will receive supervised experience in caring for clients in a variety of health care settings including hospital, long term care, clinic, and childcare. Students are taught to practice within the scope of practical nursing while under the supervision of a Registered Nurse.

LPN's use critical thinking and technical skills to assist clients to meet their physical and psychosocial needs. LPN's administer medications and perform treatments. LPN's use a variety of medical equipment, such as IV pumps, syringes, cardiac monitors, diagnostic testing devices and computers.

As a graduate of the Practical Nursing program, students are eligible to apply to take the National Council Licensure Exam for the Practical Nurse

Program Specific Requirements

1. Complete the NCTC college admission process and declare the Practical Nursing major.

2. Satisfactory completion of developmental courses if indicated by Accuplacer:

Arithmetic: >=50
Elementary Algebra: >=60

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

3. Application for eligibility to enroll in the PNSG course sequence should occur when the student is enrolled in their final semester of pre-PNSG courses, which are:

-- HLTH 1110 Nursing Assistant (NA) course within last 5 years or currently on nursing assistant registry

-- HLTH 1106 Medical Terminology 2 credits

-- MATH 1003 Math Applications for Nurses

-- BIOL 2252 Anatomy & Phys I

-- BIOL 2254 Anatomy & Phys II

-- ENGL 1111 Composition I

Students must achieve a C or higher grade in all required courses.

4. Students wishing to be considered to begin the PNSG course sequence in fall semester -- Application window open February 1st - March 1st. All required information must be submitted by the application deadline. Students completing pre-PNSG courses during the summer semester will only be considered for fall semester start pending space availability.

5. Students wishing to be considered to begin the PNSG course sequence in spring semester -- Application window open September 1st - October 1st. All required information must be submitted by the application deadline.

6. PNSG Selection Criteria

7. Students must have a minimum cumulative 2.5 GPA for PN program entrance and meet the college's required cumulative completion percentage standard. (NCTC policy 3070 Satisfactory Academic Progress) Students in a warning, probation, or suspension status will not be considered for PN program eligibility.

8. Achievement of a minimum cumulative score of 50 on the ATI TEAS examination. The ATI TEAS test must be taken before the application window closes (before March 1 for fall start and before Oct. 1 for spring start).

9. Current CPR certification--Current CPR certifications accepted include: Basic Life Support for Health Care Providers (American Heart Assn) or CPR for the Professional Rescuer (Red Cross.)

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10. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) upon acceptance into the program.

11. Completion and approval for clinical participation by the Minnesota Department of Human Services Licensing Division Background Study and fingerprinting (cost approximately $10) upon acceptance into the program. Completion and approval for clinical participation by a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

PLEASE NOTE: There is not a guarantee that a program cohort will start every semester on each site (East Grand Forks, Thief River Falls & Distance). Pending enrollment numbers, if a cohort does not start on your site of choice you may be offered a space in one of the other site cohorts. Additionally, a blended site (some classes face-to-face and some classes distance) may be used pending enrollment numbers.

Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.

Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which WILL affect program progression and completion. (Continued next page)

Required Courses

Course #	Course Title	Credits
HLTH 1106	Medical Terminology	2
HLTH 1110	Nursing Assistant	3
MATH 1003	Math Applications for Nurses	2
PNSG 1250	Intro Practical Nursing	1
PNSG 1254	Nursing Foundations	4
PNSG 1258	Psychosocial	2
PNSG 1262	Nursing Concepts I	5
PNSG 1266	Clinical Care I	1
PNSG 1270	Transition to Practice	1
PNSG 1274	Maternal/Newborn	1
PNSG 1278	Invasive Nursing Therapies	2
PNSG 1282	Nursing Concepts II	6
PNSG 1286	Clinical Care II	5
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
	Total Credits	**44**

Nursing

Nursing Assistant Certificate

3 Credits

EGF, TRF Campuses.

Program Description

The Nursing Assistant course is a prerequisite for students planning to enroll in the Practical Nursing program. The course presents factual information and hands on skill practice through lecture, lab demonstration and practice, assigned audiovisuals, texts and handouts. The course also includes hands-on clinical experience.

The nursing assistant is a healthcare professional who works under the supervision of licensed practical nurses and/or registered nurses to perform basic patient care and assist with activities of daily living. Nursing Assistants provide hands-on care and perform routine tasks. Nurse aides employed in nursing care facilities often are the principal caregivers, having far more contact with residents than do other members of the staff. This course introduces concepts of basic human needs in simple terms. Selected common technical nursing skills are introduced. Principles of body mechanics are emphasized.

The nursing assistant course is intended to prepare students for practice at the Nursing Assistant level. Upon successful completion of the course, the student is eligible to take the written and skills exam to become a Certified Nursing Assistant.

Program Specific Requirements

1. Minnesota Department of Human Services Licensing Division Background Study completion upon program entry. Evidence of approval to provide healthcare must be on file prior to participation in the clinical portion of the course. The student will be required to pay for the cost of the background study (currently $20).
2. Immunization and health screening data must be submitted on the College Health Screening Form prior to participation in the clinical portion of the course.
3. All students must have the required nursing assistant uniform for clinicals. More information will be provided the first day of class.
4. The course must be completed with a grade of C or better.

Required Courses

Course #	Course Title	Credits
HLTH 1110	Nursing Assistant	3
	Total Credits	3

Occupational Therapy

Occupational Therapy Assistant AAS

72 Credits

EGF Campus

Program Description

Occupational Therapy (OT) is the use of everyday life activities (occupations) with individuals who have limitations. These limitations may include physical or mental health and developmental or learning abilities. Individuals may also be limited by poverty and cultural differences or the aging process. OT is used to prevent disability, and maintain health in the areas of work, play, leisure, education, communication interaction and activities of daily living.

The Occupational Therapy Assistant (OTA) program includes general and technical courses and supervised fieldwork experiences. The Level II Fieldwork experience must be completed within 18 months of finishing the OTAC academic courses. The Level II Fieldwork courses, OTAC 2225 and OTAC 2235, may be taken in the 2nd summer semester or the 3rd fall semester.

Enrollment in the OTA program may be limited due to the availability of fieldwork sites. Acceptance by the College does not constitute acceptance into the OTA program. Students are considered to be "Pre-OTA" until they have been accepted to enroll in OTA courses. Interested students must complete an OTA program application in order to be considered for enrollment in the OTA program. Students interested in enrolling in this major are encouraged to contact OTA faculty to find out specific requirements for admission into this program.

Graduates of the program will be eligible to sit for the national certification examination for the Occupational Therapy Assistant, Administered by the National Board for Certification in Occupational Therapy (NBCOT) 12 South Summit Avenue, Suite 100, Gaithersburg, MD 20877-4150 (301) 990-7979. After successful completion of the exam, the graduate will be a Certified Occupational Therapy Assistant (COTA). In addition, most states require licensure to practice; however, state licenses are usually based on the results of the NBCOT certification examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Program results from the National Board for Certification in Occupational Therapy (NBCOT) can be found online at https://secure.nbcot.org/data/schoolstats.aspx

Program Specific Requirements

1. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in OTAC courses. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).
2. Current CPR certification. CPR for Health Care Providers (American Heart Association) or CPR for Professional Rescuer (Red Cross) certification is required prior to entering OTAC 2000 level courses.
3. All required courses for the program must be completed with a grade of C or better. Students must complete with at least a grade of C, PSYC 2201 Developmental Psychology, BIOL 2252 Anatomy and Physiology I, HLTH 1106 Medical Terminology and OTAC 1001 Introduction to OT prior to admittance into the OTA program.
4. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) all required developmental courses in order to be admitted into the OTA program. The program minimum scores for the Accuplacer Assessment test are as follows: Reading Comprehension - 78; Arithmetic - 50.
5. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in OTAC courses.
6. Students must complete an OTA program application in order to be considered for enrollment in OTAC courses higher than 1100.

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7. Students must complete 30 volunteer hours with Occupational Therapy Practitioners and documented it on the Volunteer/Observation Hours Form.
8. Students must meet with OTA faculty to determine eligibility for enrollment in the OTA program.
9. The Level II Fieldwork courses, OTAC 2225 and OTAC 2235, may be taken in the 2nd summer semester or the 3rd fall semester.
10. For more information please read the OTA Program Handbook and Policy Manual.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.

Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
HLTH 1106	Medical Terminology	2
OTAC 1001	Intro to OT	2
OTAC 1115	Disability/Disease Proc	2
OTAC 1125	Phys Health Foundations	3
OTAC 1135	Psychosocial Foundations	3
OTAC 1145	Scholarship I	1
OTAC 1155	Movement for Occupations	3
OTAC 2015	Ped Community Practice	2
OTAC 2025	Ped Physical Health	5
OTAC 2035	Ped Psychosocial	5
OTAC 2045	Scholarship II	2
OTAC 2115	Adult Community Practice	2
OTAC 2125	Adult Physical Health	5
OTAC 2135	Adult Psychosocial	5
OTAC 2145	Scholarship III	1
OTAC 2155	Professional Topics	2
OTAC 2225	Physical Health Fieldwork	6
OTAC 2235	Psychosocial Fieldwork	6
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
PSYC 2201	Developmental Psychology	3
PSYC 2215	Abnormal Psychology	3
	Total Credits	**72**

Paramedic

Paramedic AAS

60 Credits

EGF Campus

Program Description

Graduates of the Paramedic Associate in Applied Science degree program will be qualified and skilled professionals in the field of Emergency Medical Services as Paramedics. The Paramedic is a person who works in the exciting, expanding field of Emergency Medical Services (EMS). This degree incorporates theoretical knowledge with extensive hands on, clinical application and experience. The specialization and advanced education and training in the care and transport of the critically ill and injured can mean the difference between life and death. Paramedic A.A.S. degree graduates typically have more employment opportunities as well as enhanced potential for upward progression in the career of pre-hospital care.

Program Specific Requirements

1. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in EMTP1130. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).
2. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to the end of the first week of the EMTB1101.
3. Current Minnesota Emergency Medical Technician (EMT) certification is a prerequisite for the Paramedic courses.
4. All required courses for the program must be completed with a grade of C or better.
5. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in EMTP1130.
6. Admission into the Paramedic courses require the course application form to be completed and submitted to the program director in order to reserve a seat in the courses. The cover letter explains the application process.
7. Advanced Placement into the Paramedic Program will be evaluated on a case-by-case basis. Items that will be considered will include, but may not be limited to, prior Paramedic coursework complete, skill validations, clinical experiences and liberal arts coursework.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.

Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
EMTP 1130	BLS Ambulance Clinical	1
EMTP 1200	Intro to EMS	1
EMTP 1205	EMS Trauma Care	1
EMTP 1210	EMS Pharmacology	1
EMTP 1215	EMS Med Emergencies	3
EMTP 1220	EMS Cardiac Care	1
EMTP 1225	EMS Special Populations	1
EMPT 1230	EMS HazMat	1
EMTP 1235	Paramedic Skills	2
EMTP 1240	Paramedic Assessment 1	2
EMTP 1300	Paramedic Clinical	5
EMTP 1305	Paramedic Field Experience	3
EMTP 1400	Paramedic Assessment 2	3
EMTP 1405	ACLS/PALS/PHTLS	3
EMTP 1410	Paramedic Capstone	6
HLTH 1106	Medical Terminology	2
HLTH 2208	Pathophysiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
MATH 1110	College Algebra	3
SSCI 1101	Human Relations	3
	Total Credits	**60**

Paramedic

Paramedic Diploma

48 Credits

EGF Campus

Program Description

Graduates of the Paramedic program will be qualified and skilled professionals in the field of Emergency Medical Services as Paramedics. The Paramedic (EMT-P) is a person who works in the exciting, expanding field of Emergency Medical Services (EMS). This degree incorporates theoretical knowledge with extensive hands on, clinical application and experience. Thespecialization and advanced education and training in the care and transport of the critically ill andinjured can mean the difference between life and death. Paramedic graduates typically have more employment opportunities as well as enhanced potential for upward progression in the career of pre-hospital care.

Program Specific Requirements

1. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements. The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension: 64
Arithmetic: 50

2. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in EMTP1130. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

3. Current American Heart Association (AHA) BLS Provider level CPR is required prior to, or by the end of the first week of the EMTB1101.

4. Current Minnesota Emergency Medical Technician (EMT) certification is a prerequisite for the Paramedic courses.

5. All required courses for the program must be completed with a grade of C or better.

6. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in EMTP1130.

7. Admission into the Paramedic courses require the course application form to be completed and submitted to the program director in order to reserve a seat in the courses. The cover letterexplains the application process.

8. Advanced Placement into the Paramedic Program will be evaluated on a case-by-case basis. Items that will be considered will include, but may not be limited to, prior Paramedic coursework complete, skill validations, clinical experiences and liberal arts coursework.

Required Courses

Course #	Course Title	Credits
EMTB 1101	Emergency Medical Tech	6
EMTP 1130	BLS Ambulance Clinical	1
EMTP 1200	Intro to EMS	1
EMTP 1205	EMS Trauma Care	1
EMTP 1210	EMS Pharmacology	1
EMTP 1215	EMS Med Emergencies	3
EMTP 1220	EMS Cardiac Care	1
EMTP 1225	EMS Special Populations	1
EMPT 1230	EMS HazMat	1
EMTP 1235	Paramedic Skills	2
EMTP 1240	Paramedic Assessment 1	2
EMTP 1300	Paramedic Clinical	5
EMTP 1305	Paramedic Field Experience	3
EMTP 1400	Paramedic Assessment 2	3
EMTP 1405	ACLS/PALS/PHTLS	3
EMTP 1410	Paramedic Capstone	6
HLTH 1106	Medical Terminology	2
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
	Total Credits	**48**

Pharmacy Technology

Pharmacy Technology AAS

60 Credits

EGF Campus

Program Description

The Pharmacy Technician works as an assistant to a Registered Pharmacist, assisting or relieving the Pharmacist in routine technical and clerical duties and functioning in strict accordance with standard written procedures and guidelines under the supervision of the professional Pharmacist. A.A.S. graduates have enhanced potential for upward progression in the career of Pharmacy, as the general education component gives the student a well-rounded foundation of knowledge. Students, using their own laptop computers, learn how to access patient profiles, input drug orders, and print prescription labels. They learn how to fill prescriptions and aseptic technique for intravenous drug admixture in the College's state-of-the art teaching lab.

Program Specific Requirements

1. MATH 0080 or an Accuplacer score of 50 or higher must be completed before entering any PHRM courses.
2. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in PHRM courses. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).
3. All required courses for the program must be completed with a grade of C or better.
4. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in PHRM courses.
5. Refer to the Program Handbook for time limits on transfer of technical and general education credits and for specific program progression policies.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
CPTR 1104	Intro to Computer Tech	3
HLTH 1106	Medical Terminology	2
PHRM 1001	Fundamental Concepts of Pharm	1
PHRM 1002	Pharmacy Calculations	2
PHRM 2001	Pharmacy Prin/Prac I	4
PHRM 2002	Pharmacy Prin/Prac II	5
PHRM 2004	Professional Prac/Law	3
PHRM 2010	Experiential/Hospital	3
PHRM 2012	Experiential/Retail	3
SSCI 1101	Human Relations	3
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
CHEM 1020	Intro to Chemistry	4
ENGL 1111	Composition I	3
MATH 1110	College Algebra	3
PSYC 1105	Intro to Psychology	3
SPCH 1101	Intro to Public Speaking	3
	G6: Human/Fine Arts Elective	3
	MN Transfer Curriculum Electives	3
	Total Credits	**60**

Pharmacy Technology

Pharmacy Technology Diploma

36 Credits

EGF Campus

Program Description

The Pharmacy Technician works as an assistant to a Registered Pharmacist, assisting or relieving the Pharmacist in routine technical and clerical duties and functioning in strict accordance with standard written procedures and guidelines under the supervision of the professional Pharmacist Students, using their own laptop computers, learn how to access patient profiles, input drug orders, and print prescription labels. They learn how to fill prescriptions and aseptic technique for intravenous drug admixture in the College's state-of-the art teaching lab.

Program Specific Requirements

1. Students who have completed BIOL2252 and BIOL2254 may substitute both courses for BIOL1004.

2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses. The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Elementary Algebra-85

3. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in PHRM courses. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

4. All required courses for the program must be completed with a grade of C or better.

5. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in PHRM courses.

6. Refer to the Program Handbook for time limits on transfer of technical and general education credits and for specific program progression policies.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.

Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

Required Courses

Course #	Course Title	Credits
BIOL 1004	Intro Anatomy & Phys	3
HLTH 1106	Medical Terminology	2
PHRM 1001	Fundamental Concepts of Pharm	1
PHRM 1002	Pharmacy Calculations	2
PHRM 2001	Pharmacy Prin/Prac I	4
PHRM 2002	Pharmacy Prin/Prac II	5
PHRM 2004	Professional Prac/Law	3
PHRM 2010	Experiential/Hospital	3
PHRM 2012	Experiential/Retail	3
SSCI 1101	Human Relations	3
CHEM 1020	Intro to Chemistry	4
	MN Transfer Curriculum Electives	3
	Total Credits	**36**

Phlebotomy

Phlebotomy Certificate

16 Credits

EGF Campus

Program Description

Phlebotomists are healthcare professionals who, under the supervision of physicians and other healthcare professionals, perform blood collection procedures using a variety of intrusive techniques. The phlebotomist is primarily responsible for collecting blood and body fluid specimens from patients for the purpose of laboratory analysis.

Phlebotomists are an integral member of a healthcare team and must be well-trained in all aspects of collection and transport of specimens to be used in the diagnoses, treatments, and prevention of diseases.

The Phlebotomist program integrates theoretical, practical and interpersonal skills providing the basis for the graduate to work as an effective entry-level phlebotomist in a variety of healthcare delivery systems.

Students will learn sample requirements for various clinical laboratory departments, make judgments regarding possible sample discrepancies, use appropriate equipment for the collection of samples, use venipuncture and capillary puncture techniques, apply specimen transport and process techniques, understand quality assurance and safety techniques, and become aware of the medical and legal implications of blood and body fluids collection. Graduates will be prepared to take a national certification examination.

Program Specific Requirements

1. Students who have completed BIOL2252 and BIOL2254 may substitute both courses for BIOL1004.

2. Students must have current working knowledge of required sciences. Courses older than 5 years may not be accepted for transfer into the program: BIOL 1004 and HLTH 1106.

3. All requirements for graduation, including BIOL 1004, CPTR 1100, HLTH 1106, HLTH 1108, SSCI 1101:
(a) must be completed prior to the start of PHLB 1106
or
(b) must be currently enrolled within the same semester that the student enrolls in PHLB 1106 (please ensure that the schedule does not conflict with PHLB courses).

4. No minimum Accuplacer score required.

5. PHLB 1104, PHLB 1105, and PHLB 1106 must be completed concurrently in the same semester. If a student does not pass one of these courses, they will need to retake them all the following year to complete the program.

6. All required courses for the Phlebotomy Program must be completed with a grade of C or better.

7. The NHA (National Healthcare Association) certification exam is given as part of the PHLB 1106 curriculum. Students must achieve a passing grade on this test to pass the course and complete the program.

8. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to program entry. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

9. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in PHLB 1104.

10. Current CPR certification. CPR for Health Care Providers (American Heart Association) or CPR for Professional Rescuer (Red Cross) prior to entering PHLB 1106. Certification must be kept current for the duration of enrollment in this program.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

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.Required Courses

Course #	Course Title	Credits
BIOL 1004	Intro Anatomy & Phys	3
CPTR 1100	Computer Basics	1
HLTH 1106	Medical Terminology	2
HLTH 1108	Cultural Diversity	1
PHLB 1104	Phlebotomy Procedures	2
PHLB 1105	Phlebotomy Lab Skills	1
PHLB 1106	Clinical Phlebotomy Inter	3
SSCI 1101	Human Relations	3
	Total Credits	**16**

Physical Therapy

Physical Therapist Assistant AAS

72 Credits

EGF Campus

Program Description

Physical Therapist Assistants (PTAs) work under the direction and supervision of a Physical Therapist. PTA's perform various physical therapy services specified in the plan of care developed by the Physical Therapist. These services include data collection, treating patients with exercise and other treatment procedures, administering physical agents/modalities, and reporting patient responses to the Physical Therapist. The 72-credit curriculum consists of: basic science coursework, technical coursework, including laboratory activities and practice, and clinical education experiences in a variety of healthcare settings.

Program Specific Requirements

1. Completion of the admissions application to NCTC.

2. Completion of the PTA Program Application.

3. 40 hours of volunteer, observation or work experience in a physical therapy department (Documented on the Clinical Observation Form).

4. All required developmental courses must be completed before applying to the PTA program.

5. TEAS V for Allied Health (AH) can be taken a maximum of two times per academic year (defined as August through July). Adjusted individual total score of at least 58%. FAQ about TEAS V for AH and program admissions.

6. Current CPR certification. CPR for Health Care Providers (American Heart Association) or CPR for the Professional Rescuer (Red Cross) prior to enrollment in PTAS1120.

7. All required courses for the program must be completed with a grade of C or better.

8. Students must have current working knowledge of required sciences. Courses older than 5 years may not be accepted for transfer into the program: BIOL 2252, BIOL 2254. This may be waived if an applicant has recent experience working as a licensed healthcare provider.

9. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in PTAS1120.

10. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to enrollment in PTAS 1120. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

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AAS Required Courses

Course #	Course Title	Credits
HLTH 1106	Medical Terminology	2
PTAS 1101	Introduction to PTA	3
PTAS 1105	Fundamentals of PTA	4
PTAS 1108	PTA Pathophysiology	2
PTAS 1110	Physical Agents	4
PTAS 1114	Clinical Kinesiology	3
PTAS 1116	Therapeutic Exercise I	2
PTAS 1120	Clinical Introduction	1
PTAS 1130	Clinical Education I	4
PTAS 2101	Orthopedics for PTA	2
PTAS 2105	Neurology for PTA	5
PTAS 2111	Therapeutic Exercise II	3
PTAS 2115	Advanced Techniques	4
PTAS 2125	PTA Ethics and Issues	2
PTAS 2140	Clinical Education II	5
PTAS 2150	Clinical Education III	5
PTAS 2160	Professional Integration	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
PSYC 1105	Intro to Psychology	3
	G1: Communication Elective	3
	G4: Math/Logical Elective	3
	Total Credits	**72**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G1: Communications Electives	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3
	G4: Math/Logical Reasoning Electives	
MATH 1106	Trigonometry	2
MATH 1110	College Algebra	3
MATH 1113	Pre-Calculus	5
MATH 1131	Applied Calculus	3
MATH 2203	Statistics	4
MATH 2231	Calculus I	4
MATH 2232	Calculus II	4
MATH 2233	Calculus III	4

Precision Agriculture

Precision Agriculture Equipment Technician AAS

60 Credits

TRF Campus

Program Description

This program prepares individuals to maintain and repair specialized farm, ranch, and agribusiness power equipment and vehicles. The program includes instruction in the principles of diesel, combustion, electrical/electronics, computers and networking, hydraulic, and mechanical systems and their application to the maintenance of terrestrial and airborne crop-spraying equipment; unmanned aerial and terrestrial systems; tractors and hauling equipment; planting and harvesting equipment; cutting equipment; power sources and systems for silos; irrigation and pumping equipment; dairy, feeding, and shearing operations; and data and imagery processing systems.

Program Specific Requirements

The following minimum requirements must be completed:

1. All required courses must be completed with a grade of C or better to graduate.

2. Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

3. The minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Elementary Algebra score of 60 or Math 0090

AAS Required Courses

Course #	Course Title	Credits
AGRI 1150	Soil Maint & Fertility	3
AGRI 2250	Welding I	1
CPTR 1131	Microcomputer Maintenance	4
ETAS 1105	Applied Electronics	3
PAET 1100	Intro Precision Ag	3
PAET 1110	Equipment Operations	3
PAET 1115	Shop Tools/Practices	2
PAET 1120	Air Conditioning	2
PAET 1125	Light/Medium Engines	3
PAET 1130	Hydraulic Systems	4
PAET 1140	Ag Electrical Systems	3
PAET 2200	Advanced Farming Sys	3
PAET 2205	Heavy Duty Engines	3
PAET 2210	Ag Drive Systems	3
PAET 2230	Internship	1
PAET 2235	On-the-Job Training	3
ENGL 1111	Composition I	3
ENGL 2207	Technical Writing	3
MATH 1102	Contemporary Math	3
NSCI 1103	Geology	4
SPCH 1103	Interpersonal Communication	3
	Total Credits	**60**

Radiologic Technology

Radiologic Technology AAS

83 Credits

EGF Campus

Program Description

The Radiologic Technology program prepares students to perform various radiologic procedures through didactic as well as clinical experiences. The student Radiologic Technologist instructs and positions patients, manipulates radiographic equipment, adjusts exposure factors, provides radiation protection for patient, self, and others, evaluates the quality of images, and carries out activities associated with quality control. The student Radiologic Technologist carries out these functions under the supervision, or upon the direction of a registered Radiologic Technologist and Radiologist, a physician specializing in radiography for diagnosis and treatment.

The Radiologic Technology program is a five semester, 21-month, 83 credit program accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). In addition to providing a quality education in the field of radiography, our program incorporates values and attitudes congruent with the professional standards and ethics as outlined by the American Registry of Radiologic Technologists.

Program Effectiveness Data

In addition to the sequential classroom requirements outlined in the program curriculum, student radiographers clinically rotate at six clinical education sites. These designated clinical education sites provide students with a wide variety of both inpatient and outpatient imaging services designed to enhance graduate work-readiness skills in imaging and patient care.

Graduates of the Radiologic Technology program are eligible for the national certification exam administered by the American Registry of Radiologic Technologists. Successful completion of this exam qualifies the graduate as a Registered Radiologic Technologist. Please visit www.arrt.org for eligibility requirements.

Field Description/Work Environment

Radiologic Technologists (R.T.'s) work in a variety of healthcare settings such as hospitals, physicians' offices or outpatient clinics. Radiographers also provide mobile imaging in surgery, emergency room and patient room settings. R.T.'s are responsible for achieving accurate positioning of patients and body structures ensuring that they provide radiologists with quality diagnostic images. Radiologic Technologists work closely with radiologists. A Radiologist is a physician that is responsible for interpreting radiographic images in order to diagnose patient conditions.

Program Specific Requirements

APPLICATION PROCESS: All applicants must document Hepatitis B vaccination or completion of a minimum of two vaccines by the application deadline of February 1st. Please keep in mind the first two vaccines are in sequence of one month apart so applicants must plan according to comply. Please visit the NCTC webpage regarding ALL program immunization requirements.

1. Completion of the NCTC admissions application.
All applicants must apply and be accepted to NCTC. The application can be completed at any time or contact admissions at 1-800-959-6282.

2. Completion of the Radiologic Technology program application. The program application window will be open **November 1 - February 1** each year. Students cannot complete a program application prior to or after these dates.

* November 1st -- the official program application will be available for download.

* **Completed program application must be emailed to Deb King, Program Director**.

* February 1st -- application window closes at the end of the day. All college transcripts are due, and any course substitution paperwork completed.

* March -- students selected will be notified by mail the first part of March.

Check program website for updates.

3. All applicants must provide documentation of completion or current enrollment in the below courses when submitting a program application;

* BIOL 2252 Anatomy and Physiology I

* ENGL 1111 Composition I or *ENGL 1112 Compositiion II
* HLTH 1106 Medical Terminology
* MATH 1110 College Algebra
* CHEM 1020 Intro to Chemistry 4 cr
Course substitute for CHEM 1020--CHEM 2211 5 cr OR CHEM 1121 5 cr **AND** 1122 5 cr. CHEM 1121 alone does not satisfy program requirements.

4. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to the start of fall semester.

5. All required courses for the program must be completed with a grade of C or better.

6. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to the start of fall semester.

7. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) prior to the start of fall semester. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings. Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
HLTH 1106	Medical Terminology	2
RADT 1110	Intro Rad Tech/Pat Care	3
RADT 1114	Radiographic Proc I	4
RADT 1119	Clinical Radiography I	5
RADT 1122	Radiographic Physics	3
RADT 1124	Radiographic Proc II	4
RADT 1127	Image Production & Eval	3
RADT 1128	Clinical Radiography II	5
RADT 1135	Advanced Imaging	2
RADT 1138	Clinical Radiography III	6
RADT 2217	Imaging Equipment/QA	3
RADT 2218	Clinical Radiography IV	8
RADT 2220	Radiation Biology/Protect	2
RADT 2228	Clinical Radiography V	7
RADT 2234	Radiographic Pathology	2
RADT 2240	Registry Prep	2
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
CHEM 1020	Intro to Chemistry	4
MATH 1110	College Algebra	3
PSYC 1105	Intro to Psychology	3
	G1: Communication Elective	3
	G6: Human/Fine Arts Elective	3
	Total Credits	83

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G1: Communication Elective	
ENGL 1111	Composition I	3
ENGL 1112	Composition II	3
	G6: Human/Fine Arts Elective	
PHIL 1102	Intro to Ethics	3
PHIL 2210	Morals and Medicine	3

Respiratory Therapy

Respiratory Therapist AAS

78 Credits

EGF Campus

Program Description

As a Respiratory Therapist you can hold an exciting position on the health care team. Under the supervision of a physician, the Respiratory Therapist is responsible for oxygen and gas therapy, care of patients with cardiopulmonary problems including cardiopulmonary arrest, delivery of aerosolized medication, chest physiotherapy, obtaining and analyzing arterial blood gas specimens, pulmonary function testing, maintenance of patients in need of mechanical ventilators, and education of patients and families. University of Minnesota-Crookston offers students the opportunity to transfer into designated baccalaureate programs; Bachelor of Science in Technical Studies (Emphasis Respiratory Care), or in Applied Management-Health Management.

Program Specific Requirements

1. Appropriate Accuplacer scores or successful completion of ENGL0095, MATH0090 must be completed before entering any RESP courses.

2. Completion of the RESP program application.

3. Four (4) hours of volunteer, observation, or work experience in a respiratory therapy department documented on the Clinical Observation form.

4. TEAS V for Allied Health (AH) FAQ sheet adjusted individual total score of at least 45%. Review the directions on how to create an account.

5. Annual enrollment into the Respiratory Therapist semesters 1-6 courses is limited to 24 students per semester.

-- Acceptance into the Respiratory Therapist program is based upon eligibility for and successful online registration into all semester 1 Respiratory Therapist coursework.

-- Students are encouraged to declare Respiratory Therapist as their major and to meet with an academic advisor prior to registering for Respiratory Therapist classes to be sure that they meet all requirements.

6. Once the online registration capacity of 24 students enrolled in RESP courses is reached, any student wanting to enroll into the respiratory therapist coursework will be encouraged to register online into the electronic waiting lists.

-- Students are also encouraged to take advantage of this time to take non-respiratory coursework to improve their chances of success in RESP course work.

7. Students on the waiting lists are encouraged to check online registration and their email, as students may drop from registration or eligibility at any time up to the first week of the semester.

8. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10) upon program entry. Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

9. A laptop computer is recommended for semesters four through six.

10. All required courses for the program must be completed with a grade of C or better.

11. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to enrollment in RESP courses.

12. Current CPR certification. CPR for Health Care Providers (American Heart Association) or CPR for Professional Rescuer (Red Cross) is required prior to enrollment in semesters 2-6 of RESP courses.

PLEASE NOTE:
Prior to enrollment in Respiratory Therapist coursework, students are encouraged to read the Respiratory Therapist Program Handbook. If there are any questions or concerns related to the information in this document please contact the Program Director, Tony Sorum.
Students are encouraged to complete general education coursework prior to enrollment in Respiratory Therapist coursework. There is no set limit

to the number of students enrolled with the college who have Respiratory Therapist as their major.
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.
Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

AAS Required Courses

Course #	Course Title	Credits
EMTP 2230	ACLS	1
EMTP 2234	Pediatric Adv Life Support	1
HLTH 1106	Medical Terminology	2
HLTH 2002	Pharmacology	2
RESP 1104	Non Acute Resp Care	4
RESP 1110	Adult Critical Care	4
RESP 1120	Cardio Physiology/Assess	3
RESP 1126	Clinical I	1
RESP 2207	Clinical II	2
RESP 2211	Clinical III	2
RESP 2212	Diagnostic Procedures	3
RESP 2236	Neonatal Resuscitation Pr	1
RESP 2242	Neo/Peds Critical Care	4
RESP 2244	Integrated Pract I	1
RESP 2246	Neonatal Internship I	1
RESP 2250	Internship I	5
RESP 2252	Advanced Critical Care	4
RESP 2254	Internship II	5
RESP 2260	Neonatal Internship II	1
RESP 2262	Internship III	3
RESP 2264	Integrated Pract II	1
RESP 2276	Adv Prac Registry Review	3
RESP 2278	Patient Ed & Wellness	2
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
CHEM 1020	Intro to Chemistry	4
ENGL 1111	Composition I	3
PSYC 1105	Intro to Psychology	3
	G6: Human/Fine Arts Elective	3
	Total Credits	**78**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G6: Human/Fine Arts Elective	
PHIL 1101	Intro to Philosophy	3
PHIL 1102	Intro to Ethics	3
PHIL 2210	Morals and Medicine	3

Sales Marketing & Management

Sales Marketing & Management AAS

60 Credits

EGF Campus and Online

Program Description

This program prepares students to succeed in the marketplace of the 21st century. This program provides students with the essential skills necessary for a variety of careers in the sales, marketing, and management fields. Curriculum includes instruction in the following areas: sales, marketing, research, customer service, telemarketing, and small business planning. Emphasis is placed on developing skills in management decision-making, interpersonal and communication skills, problem solving, and technology skills. Particular emphasis is placed the use of computer technology.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

AAS Required Courses

Course #	Course Title	Credits
ACCT 1108	Busn Math/Calculators	3
BUSN 2210	Prin of Management	3
BUSN 2218	Legal Environment Busn	3
CPTR 1104	Intro to Computer Tech	3
MKTG 1108	Customer Relations Mgmt	3
MKTG 2116	Advertising	3
MKTG 2120	Supervisory Leadership	3
MKTG 2200	Prin of Marketing	3
MKTG 2201	Prin of Sales	3
MKTG 2205	Prin of Retailing	3
MKTG 2304	Applied Sales Techniques	3
MKTG 2306	Small Business Mgmt	3
MKTG 2320	Marketing Management	3
ENGL 1111	Composition I	3
SOCI 1101	Intro to Sociology	3
SPCH 1101	Intro to Public Speaking	3
	G5: History/Social Elective	3
	MN Transfer Curriculum Electives	3
	Area of Interest Electives	6
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
ACCT 1104	Payroll	3
ACCT 1124	Spreadsheet Concepts	3
ADMS 1116	Business Communications	3
BUSN 2221	Prin of Accounting I	4
CPTR 1128	Help Desk Concepts	3
CPTR 1136	Networking I	4
CPTR 1500	Intro Web Concepts	3
MKTG 2300	Marketing Research	3
MKTG 2410	Social Media Marketing	3
MKTG 2430	Digital Marketing I	3
MKTG 2450	Digital Marketing II	3
MKTG 2900	Internship I	3
MKTG 2920	Internship II	3
SSCI 1101	Human Relations	3
	G5: History/Social Science Electives	
ECON 2201	Microeconomics	3
ECON 2202	Macroeconomics	3

Sales Marketing & Management

Digital Marketing AAS

60 Credits

Online only

Program Description

This program prepares students to use appropriate techniques for marketing and promotion within social and digital media. Students are provided the essential skills for careers in sales, marketing, and management, including developing skills in management decision-making, interpersonal and communication skills, and problem solving. Emphasis is placed on developing skills unique to the unique approaches used within social media, mobile marketing, and analytics. Both theory and practical experience is combined throughout the program.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

AAS Required Courses

Course #	Course Title	Credits
BUSN 2210	Prin of Management	3
BUSN 2218	Legal Environment Busn	3
CPTR 1104	Intro to Computer Tech	3
CPTR 1500	Intro Web Concepts	3
MKTG 1108	Customer Relations Mgmt	3
MKTG 2116	Advertising	3
MKTG 2200	Prin of Marketing	3
MKTG 2201	Prin of Sales	3
MKTG 2300	Marketing Research	3
MKTG 2306	Small Business Mgmt	3
MKTG 2320	Marketing Management	3
MKTG 2410	Social Media Marketing	3
MKTG 2430	Digital Marketing I	3
MKTG 2450	Digital Marketing II	3
ENGL 1111	Composition I	3
SOCI 1101	Intro to Sociology	3
SPCH 1101	Intro to Public Speaking	3
	G5: History/Social Elective	3
	MN Transfer Curriculum Electives	3
	Area of Interest Electives	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
ACCT 1124	Spreadsheet Concepts	3
ADMS 1114	Desktop Pub/Pres Graph	3
ADMS 1116	Business Communications	3
MKTG 2120	Supervisory Leadership	3
MKTG 2205	Prin of Retailing	3
MKTG 2304	Applied Sales Techniques	3
MKTG 2900	Internship I	3
	G5: History/Social Science Electives	
ECON 2201	Microeconomics	3
ECON 2202	Macroeconomics	3

Sales Marketing & Management

Digital Marketing Certificate

24 Credits

Online only

Program Description

This certificate provides students the basics for preparing and conducting marketing and promotion within social and digital media. Students are provided the essential skills unique to approaches used within social media, digital marketing, and analytics. Both theory and practical experience is combined throughout the program.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Note: Some programs may require assessment scores that exceed the college minimum in the areas of Arithmetic & Elementary Algebra.

Required Courses

Course #	Course Title	Credits
CPTR 1104`	Intro to Computer Tech	3
CPTR 1500	Intro Web Concepts	3
MKTG 2116	Advertising	3
MKTG 2200	Prin of Marketing	3
MKTG 2300	Marketing Research	3
MKTG 2410	Social Media Marketing	3
MKTG 2430	Digital Marketing I	3
MKTG 2450	Digital Marketing II	3
	Total Credits	**24**

Supervisory Leadership

Supervisory Leadership Certificate

18 Credits

EGF, TRF Campuses and Online

Program Description

This program prepares students to supervise people in work environments where active participation in decision-making is required of all employees. Some of the courses will be offered online only.

Program Specific Requirements

All required courses for the program must be completed with a grade of "C" or better.

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The college minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-78
Arithmetic-50

Required Courses

Course #	Course Title	Credits
ADMS 1116	Business Communications	3
BUSN 2210	Principles of Management	3
MKTG 2120	Supervisory Leadership	3
	G1: Communications Elective	3
	Area of Interest Elective	6
	Total Credits	**18**

Elective Course Options

Course #	Course Title	Credits
BUSN 1110	Intro to Business	3
BUSN 2218	Legal Environment Busn	3
MKTG 2200	Prin of Marketing	3
SSCI 1101	Human Relations	3
	G1: Communications Electives	
SPCH 1101	Intro to Public Speaking	3
SPCH 1103	Interpersonal Communication	3

Surgical Technology

Surgical Technology AAS

60 Credits

EGF Campus

Program Description

The Surgical Technology program prepares students to assist the surgeon, anesthesiologist, and professional registered nurse as an integral member of the direct patient care team before, during, and after surgical intervention. The graduate practitioner will possess the knowledge base and technical skills to demonstrate the principles of sterile technique, demonstrate the invasive procedural steps necessary to correct anatomical pathology, prepare equipment, instruments, supplies, and sutures used for surgical procedures, assist the surgeon throughout the operative procedure, incorporate values and attitudes congruent with professional standards and ethics, and perform in the role of first scrub, second assistant, supervised circulator, and first assistant.

Students will obtain clinical experience at Altru Hospital in Grand Forks ND, Sanford Hospital in Fargo ND and Fargo VA Healthcare System. Students are required to complete a minimum of 120 surgical cases during the clinical training for successful completion of the program, as approved by the ARC/STSA.

Graduates of the program are eligible to take the National Certifying Examination for Surgical Technologists to become a Certified Surgical Technologist (CST). The exam is administered by the National Board of Surgical Technology and Surgical Assisting (NBSTSA), the credentialing organization. The NBSTSA awards a certificate, after successful completion of the examination; the individual will be nationally certified. The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA).

Program Specific Requirements

Individuals who intend to apply to the program must:

1. Current CPR certification. CPR for Health Care Providers (American Heart Association) or CPR for Professional Rescuer (Red Cross) prior to the start of the fall semester of the second year of the Surgical Technology Program. Certification must be kept current for the duration of enrollment in this program.

2. Complete all required developmental and general education courses before beginning the final program semester.

3. Completion of the College Health Screening & Immunization information requirements through Castle Branch (cost $35) prior to the beginning of the final fall semester.

4. Completion and approval for clinical participation of the Minnesota Department of Humans Services Licensing Division Background Study and fingerprinting (cost approximately $10). Completion and approval for clinical participation of a National Background Study through Castle Branch. Cost $45.75 first year, $26 second year (if needed).

5. The program requires students to have current working knowledge of required sciences. Courses older than 5 years may not be accepted for transfer into the program: BIOL 2221, BIOL 2252, BIOL 2254, HLTH 1106, HLTH 2002, HLTH 2208.

6. SURT 1102 Intro to Surgical Tech is offered in an online format only. Check the Distance Education schedule when registering.

Acceptance into the program is based upon a minimum GPA of 2.0 or letter grade of C in all required courses, date of program application, and adherence to the criteria of the Surgical Technology program.

PLEASE NOTE:
Health and Human Services students must comply with both Minnesota law and clinical facility requirements related to immunizations and background screenings.
Students who do not comply with the required health and immunization requirements may not be permitted to attend clinical which **WILL** affect program progression and completion.

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AAS Required Courses

Course #	Course Title	Credits
HLTH 1106	Medical Terminology	2
HLTH 2002	Pharmacology	2
HLTH 2208	Pathophysiology	3
SURT 1102	Intro to Surgical Tech	2
SURT 2204	Operating Room Theory	4
SURT 2206	Operating Room Practices	5
SURT 2212	Operative Procedures	5
SURT 2216	Clinical I	6
SURT 2220	Clinical II	7
BIOL 2221	Microbiology	3
BIOL 2252	Anatomy & Phys I	3
BIOL 2254	Anatomy & Phys II	3
ENGL 1111	Composition I	3
PSYC 1105	Intro to Psychology	3
PSYC 2201	Developmental Psychology	3
	G4: Math/Logical Elective	3
	G9: Ethic/Civic Resp Elec	3
	Total Credits	**60**

Area of Interest Elective Course Options

Course #	Course Title	Credits
	G4: Math/Logical Reasoning Electives	
MATH 1102	Contemporary Math	3
MATH 1110	College Algebra	3
	G9: Ethical/Civic Responsibility Electives	
PHIL 1102	Intro to Ethics	3
PHIL 2210	Morals and Medicine	3

Welding

Welding Technology Diploma

36 Credits

EGF Campus

Program Description

The Welding Technology program is accredited by the American Welding Society and prepares students for a career in welding. The program integrates theory and application of technical and general courses. Coursework provides the student with information and skill development in a variety of welding processes. Through coursework, the student develops fundamental knowledge of metals, welding processes, safety and related equipment applications. The student learns several different arc and gas welding processes and joins various types of metal while perfecting hand skills. In addition, students learn safe practice and proper maintenance on all equipment.

Graduates from this diploma program will be qualified to work in a variety of settings that are found both in rural and metropolitan areas.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of C or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
HPER 1410	First Aid/CPR	1
SSCI 1101	Human Relations	3
WELD 1102	Weld Fundamentals	3
WELD 1104	Basic SMAW	4
WELD 1106	Flux Cored Arc Welding	2
WELD 1110	Blueprint Reading/Symbols	2
WELD 1112	Advanced SMAW	4
WELD 1114	Basic Fabrication	4
WELD 1116	Gas Shielded Processes	5
WELD 1118	Internship	4
WELD 1120	SMAW Pipe	3
WELD 1124	Cutting Processes	1
	Total Credits	**36**

Welding

Welding Process Technology Diploma

33 Credits

TRF Campus

Program Description

The Welding Process Technology diploma was designed in cooperation with regional manufacturing companies. The program prepares the student for a career in a welding or welding related field. The program integrates theory, safety, and applications of technical welding training.

Through coursework, the student will develop fundamental knowledge of metals, welding processes, safety and related equipment applications. The student will become proficient in the following welding and cutting processes: stick (SMAW) and gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), oxy-acetylene welding (OAW), oxy-acetylene cutting (OAC), plasma arc cutting (PAC), and carbon arc cutting (CAC). The students will also have the opportunity to fabricate several weldments using various types of materials and techniques.

This degree consists of two stackable certificates that a student may take in either order. The student may stop out for employment and continue at a later date, or they may move straight through the full program.

Program Specific Requirements

Students achieving assessment scores below the established minimums must register and successfully complete (with a grade of "C" or better) the required developmental courses in order to meet graduation requirements.

The program minimum scores for the Accuplacer Assessment test are as follows:

Reading Comprehension-64
Arithmetic-50

Required Courses

Course #	Course Title	Credits
CRLT 2103	Job Seeking/Keeping	1
WELD 1104	Basic SMAW	4
WELD 1106	Flux Cored Arc Welding	2
WELD 1107	GTAW – Alum & SS	3
WELD 1108	GMAW – Manufacturing	4
WELD 1109	Weld Fabrication	4
WELD 1110	Blueprint Reading/Symbols	2
WELD 1117	Gas Tungsten Arc Welding	3
WELD 1123	Fabrication Math	2
WELD 1124	Cutting Processes	1
WELD 1125	CNC Plasma Cutting	2
WELD 1130	Gas Metal Arc Welding	4
WELD 1150	Weld Qualification	1
	Total Credits	**33**

Welding

Welding Process Technology Certificate

16 Credits

TRF Campus

Program Description

The Welding Process Technology certificate is designed to provide the student training in safely welding and cutting in various environments on mild carbon steel. The program is offered over 12 weeks (Jan-Mar) in the spring semester to allow for those students that would not otherwise be able to participate in a full 16 week semester (Jan-May).

Students will be introduced to basic theory and practical skill development in common welding process and techniques used for general welding repair and fabrication.

Upon completion the student will be proficient in SMAW, GMAW, GTAW, and OAW on mild steel. They will also be able to use various thermal cutting processes such as plasma, OAC, and carbon-arc cutting

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
WELD 1104	Basic SMAW	4
WELD 1117	Gas Tungsten Arc Welding	3
WELD 1123	Fabrication Math	2
WELD 1124	Cutting Processes	1
WELD 1125	CNC Plasma Cutting	2
WELD 1130	Gas Metal Arc Welding	4
	Total Credits	**16**

Welding

Welding Manufacturing Technology Diploma

31 Credits

TRF Campus

Program Description

This program is designed to prepare the student for entry to various types of manufacturing jobs that require welding. The student will be proficient at setting up welding machines and trouble-shooting common problems related to the welding process. The student will be trained in following written and verbal instructions for proper lay-out, tacking, and fabrication of weldments so those weldments will be within a given set of tolerances. The student will also be allowed to qualify with several types of welding processes following industry approved welding procedure specifications.

Program Specific Requirements

None.

Required Courses

Course #	Course Title	Credits
CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacture Process/Prod	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
CRLT 2103	Job Seeking/Keeping	1
ENGL 1012	Applied Communications	3
HPER 1410	First Aid/CPR	1
WELD 1106	Flux Cored Arc Welding	2
WELD 1107	GTAW – Alum & SS	3
WELD 1108	GMAW – Manufacturing	4
WELD 1109	Weld Fabrication	4
WELD 1110	Blueprint Reading/Symbols	2
WELD 1123	Fabrication Math	2
WELD 1150	Weld Qualification	1
	Total Credits	**31**

Welding

Welding Manufacturing Technology Certificate

17 Credits

TRF Campus

Program Description

This fall semester program is designed to prepare the student for entry to various types of manufacturing jobs that require welding. The student will be proficient at setting up welding machines and trouble-shooting common problems related to the welding process. The student will be trained in following written and verbal instructions for proper lay-out, tacking, and fabrication of weldments so those weldments will be within a given set of tolerances. The student will also be allowed to qualify with several types of welding processes following industry approved welding procedure specifications.

Required Courses

Course #	Course Title	Credits
CRLT 2103	Job Seeking/Keeping	1
WELD 1106	Flux Cored Arc Welding	2
WELD 1107	GTAW – Alum & SS	3
WELD 1108	GMAW – Manufacturing	4
WELD 1109	Weld Fabrication	4
WELD 1110	Blueprint Reading/Symbols	2
WELD 1150	Weld Qualification	1
	Total Credits	**17**

Program Specific Requirements

None.

Accounting

ACCT 1100 - Principles of Bookkeeping (3 cr)

This course covers the basic accounting cycle for service and merchandising businesses. Topics include the analyses of business transactions, recording and posting transactions, payroll procedures and the preparation of financial reports. Prerequisite(s): None.

ACCT 1104 - Payroll (3 cr)

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 government payroll reports. Prerequisite(s): None.

ACCT 1108 - Business Math/Calculators (3 cr)

This course covers how to make common business-related math calculations, and to apply the calculations to accounting and other business functions, using the touch system on the microcomputer ten-key pad. Prerequisite(s): None.

ACCT 1124 - Spreadsheet Concepts (3 cr)

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 1128 - Computerized Accounting I (3 cr)

This course is an introduction to computerized accounting applications and software used in the business industry. Topics include general ledger accounting, payroll procedures, accounts receivable, accounts payable, inventory and depreciation. Prerequisite(s): CPTR1104, BUSN2221.

ACCT 2200 - Income Tax (3 cr)

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, deductions for adjusted gross income, business income and expenses, business tax credits and payment of estimated taxes. Prerequisite(s): None.

ACCT 2203 - VITA Service (1 cr)

This course trains students in the preparation of federal and state income tax returns for individuals. Emphasis is placed on return preparation with the use of TaxWise. The course is offered in conjunction with the Internal Revenue Service sponsored Volunteer Return Preparation Program. As such, students will not sign completed tax returns. Relief from liability for the students and NCTC is provided by the Volunteer Protection Act of 1997, PL 105-19. Prerequisite(s): None.

ACCT 2204 - Intermediate Accounting I (4 cr)

This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations, and governmental agencies. Topics include the income statement, balance sheet, statement of cash flows, and various asset groups.
Prerequisite(s): BUSN2222.

ACCT 2208 - Cost Accounting (3 cr)

This course covers accounting for materials, labor, and factory overhead in a manufacturing entity. Other topics include cost accounting systems, accounting for scrap, spoiled goods, by-products, and joint products, budgeting, standard cost accounting, and cost analysis. Prerequisite(s): BUSN2222.

ACCT 2210 - Income Tax II (3 cr)

This course provides an explanation and interpretation of the Internal Revenue Code as applied to partnerships, corporations, and exempt organizations. Topics include business income and expense, depreciation, business tax credits, and basis calculations. Prerequisite(s): ACCT2200.

ACCT 2214 - Intermediate Accounting II (4 cr)

This course is a continuation of a comprehensive study of accounting theory and concepts. Topics include various asset, liabilities and owners' equity, contributed capital and retained earnings. Other topics may be included. Prerequisite(s): ACCT2204.

ACCT 2220 - Accounting Capstone (4 cr)

This course serves as a capstone course synthesizing various accounting and business subjects that will prepare students for professional practice in an accounting career. This course will prepare the student for the Comprehensive Examination for Accreditation in Accountancy, as offered by the Accreditation Council for Accountancy and Taxation, an affiliate of the National Society of Public Accountants. Topics include compilation and review services, professional codes of conduct and business and fiduciary tax code. Students may choose whether or not to take the accrediting exam. Prerequisite(s): ACCT2204, ACCT2208, ACCT2200, BUSN2218

ACCT 2240 - Accounting Internship (3 cr)

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

Medical Administrative Support

ADMM 1110 - Intro to Health Info Mgmt (3 cr)

This course is a study of recordkeeping practices in hospitals and physician's offices. Emphasis is placed on hospital and medical staff organization, patient record content, quantitative analysis, release of patient information, forms control and design, indexes and registers, reimbursement, regulatory and accrediting agencies, and alternate healthcare delivery systems. The student will learn about the role of the health information professional and how the American Health Information Management Association's (AHIMA) role is integral to the healthcare delivery system. Computer software will be utilized to provide experience in operating/manipulating health information data.
Prerequisite(s): None.

ADMM 1120 - Medical Office Procedures (3 cr)

This course covers medical office tasks performed by the medical office assistant. Medical topics covered include health care careers, legal and ethical responsibilities, medical appointments, telephone techniques, health information management, and medical office management.
Prerequisite(s): None. Corequisite: HLTH1106.

ADMM 1130 - Medical Transcription (4 cr)

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 Association of Healthcare Documentation Integrity (AHDI). Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, and Keyboarding skill of 40 wpm.

ADMM 1135 - Medical Language Applications (4 cr)

This course covers appropriate usage of medical language in written documentation. Authentic medical documentation will be reviewed. Proofreading for spelling errors, analysis of content, and proper pronunciation of medical language are emphasized. A solid foundation of medical terminology is necessary for success in this class. Prerequisite(s): HLTH1106.

ADMM 1150 - Medical Billing/Insurance (3 cr)

This course provides information related to medical billing and health insurance. Topics covered include billing and procedures in the medical office, types of health insurance coverage, insurance claim processes and related ethical and legal issues. Prerequisite(s): None.

ADMM 1160 - CPT/HCPCS Coding (3 cr)

This course is designed to prepare students to assign Current Procedural Coding Terminology (CPT) and HCPCS (Healthcare Common Procedure Coding System) codes for services provided in a medical office and other outpatient facilities with entry level proficiency. Course topics include CPT and HCPCS Level II coding, and legal and ethical issues related to outpatient coding practices. Prerequisite(s): HLTH1106, BIOL2252, BIOL2254.

ADMM 1165 - ICD Coding (3 cr)

This course is an introduction to diagnosis coding and hospital procedure coding for billing and insurance purposes. Topics include the basis for classifying and indexing diagnoses and hospital procedure for the purpose of standardization, retrieval, and statistical analysis. The course prepares students to assign International Classification of Diseases (ICD) diagnostic and procedure codes supported by medical documentation with entry-level proficiency. Prerequisite(s): HLTH1106, BIOL2252, BIOL2254.

ADMM 2230 - Advanced Medical Transcription (4 cr)

Advanced Transcription is a continuation of ADMM1130 Medical Transcription with emphasis placed on independent practice techniques used in a medical transcription setting. This course is designed to improve proofreading and editing skills and provides an introduction to speech recognition technology. The course focuses on proper formatting, appropriate terminology and development of transcription proficiency. Prerequisite(s): ADMM1130.

ADMM 2240 - Medical Coding Ethics (3 cr)

This course develops the student's sense of ethical and civic responsibility by identifying and analyzing circumstances in which ethical dilemmas occur specific to medical coding and reimbursement. Students will apply professional standards through a variety of case studies and examples within professional settings. Prerequisite(s): ADMM1150, ADMM1160, ADMM1165.

ADMM 2250 - Inpatient Billing (3 cr)

This course is designed to transition the learner's knowledge of billing and coding concepts to billing and coding in a hospital environment. The course provides an introduction to the hospital environment, billing process, and reimbursement methodologies. Discussion on the relationship between billing, coding, documentation, claims forms and reimbursement is presented to provide an overall view of the connection between various elements in the billing process. Prerequisite(s): ADMM1150, ADMM1160, ADMM1165.

ADMM 2260 - Intermediate CPT/HCPCS Coding (3 cr)

This course is a continuation of ADM1160 and emphasizes coding in a medical office and other outpatient care facilities. The course utilizes practical examples to reinforce coding principles. Course topics include Current Procedural Terminology and Healthcare Common Procedure Coding System (CPT/HCPCS), and legal and ethical issues related to outpatient coding practices. Electronic coding software is applied to the coding process. Prerequisite(s): ADMM1160.

ADMM 2265 - Intermediate ICD Coding (3 cr)

This course is a continuation of ADMM1165 with developmental practice to increase proficiency in International Classification of Diseases (ICD) coding. The course will apply coding knowledge by abstracting information from patient records for billing and insurance purposes. The course utilizes practical examples to reinforce coding principles. Electronic coding software is also applied to the coding process. Prerequisite(s): ADMM1165.

ADMM 2280 - Medical Office Simulation (3 cr)

This course is a capstone simulation course that covers a variety of administrative tasks. This course bridges the gap between classroom and work experience and provides an internship/externship-like experience in a medical office. Prerequisite(s): None.

ADMM 2285 - Certification Review (3 cr)

This course provides a comprehensive review of topics including coverage of anatomy, medical terminology, pathophysiology, as well as concepts, guidelines, and rules of medical coding. It also provides the necessary tools to understand how to break each case down and translate services, procedures, and diagnoses into the most appropriate codes for reimbursement. There is an emphasis on application of skills within a medical setting. Prerequisite(s): ADMM1160, ADMM1165.

Administrative Support

ADMS 1100 - Keyboarding I (3 cr)

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. Speed, accuracy, formatting concepts, and proofreading skills are stressed. The student will utilize comprehensive word processing software. Prerequisite(s): None.

ADMS 1102 - Keyboarding II (3 cr)

This course continues the development of advanced keyboarding techniques. Emphasis is on the touch method, advanced formatting concepts, and the continued development of accuracy, speed, proofreading, editing, critical thinking, and decision-making skills. The student will utilize comprehensive word processing software. Prerequisite(s): ADMS1100.

ADMS 1110 - Word Processing (3 cr)

This course gives students an in-depth understanding of the word processing techniques needed to facilitate the production, documentation, storage, and relay of

information. The course will stress increased proficiency in the computer production of a variety of business documents. Prerequisite(s): CPTR1104.

ADMS 1114 - Desktop Pub/Present Graphics (3 cr)

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 collaborative learning in planning, designing, and evaluating business documents and presentations. Prerequisite(s): None.

ADMS 1116 - Business Communications (3 cr)

This course covers composing, editing, and proofreading memos, letters, and other business documents. The principles of grammar, punctuation, spelling, and word use are applied. Emphasis is on purpose, content, planning, writing, and formatting of these documents. The application of teamwork and critical thinking skills is included in the course. Prerequisite(s): Successful completion of ENGL0095 or an assessment score of 78 or higher.

ADMS 1121 – Business Office Management (3 cr)

This course covers office procedures relevant to a traditional office and new procedures relevant to an electronic automated office. Topics include work organization, time management, ergonomics, records management, scheduling, organizing meetings, processing mail, telephone procedures, arranging travel, and exposure to the role and responsibilities of an administrative professional. Prerequisite(s): None.

ADMS 1128 - Records/Database Management (3 cr)

This course is an introduction to the procedures and rules for indexing and storing documents. It also includes an introduction to the procedures for document management and records storage systems. Prerequisite(s): CPTR1104.

ADMS 2213 – Advanced Office Apps (3 cr)

This course provides the student the opportunity to demonstrate the use of a centralized computer system for both actual and simulated business applications. Areas covered include document management, advanced applications in word processing, database, spreadsheets, and presentation software. Also covered is skill development using email software to effectively manage email, contacts, calendars/scheduling, create tasks and notes as well as customize, integrate, and archive email components. Prerequisite(s): ACCT1124, ADMS1100, CPTR1104.

ADMS 2243 - Software Support Internship (3 cr)

The software support specialist internship provides students with a purposeful occupational experience in the software support career field. A training plan is created for each student in conjunction with the training site. The advisor coordinates and monitors the progress of the internship. One credit of internship is equal to 48 hours of career-related employment. Prerequisite(s): Advisor approval.

ADMS 2250 - Office Technologies (3 cr)

Technological advances have resulted in new ways to communicate in the office. This course covers the latest trends in communication technologies in the office. Topics include, but are not limited to: enhancing written business communications to foster understanding using technology, integration of application software to produce business communications, online meetings, and publishing to the internet. Prerequisite(s): CPTR1104.

ADMS 2281 - Internship (2-4cr) (4 cr)

This course provides students a purposeful occupational experience in the Administrative Support careers field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. Prerequisite(s): Student must have completed or be registered for all required courses in the major and have advisor approval.

Agriculture General

AGRG 1100 - Introduction to Agriculture (3 cr)

Students will learn and understand different facets of the food, fiber and environmental system in the field of Agriculture. Students will explore the food, fiber and services of the agriculture community at the local, state, national and world wide levels. Prerequisite(s): None.

AGRG 1105 - Agribusiness & Records (3 cr)

This course provides an introduction to the business of agriculture. This course will include an overview of the food and fiber industry on the local, state, national and global levels. Students will be introduced to basic management concepts and the types of agribusinesses including cooperatives. Prerequisite(s): None.

AGRG 1110 - Introduction to Animal Science (4 cr)

General principles of the livestock industry with emphasis on management, breeding, feeding, ethics and care of dairy cattle, horses, beef cattle, sheep, swine, poultry, companion animals, and exotic livestock.

AGRG 1115 - Introduction to Agronomy (4 cr)

This course will introduce students to basic agronomy, plant science, and cultivation. Plant growth, development and physiology of row crops, small grains, grasses and legumes will be covered. Prerequisite(s): None.

AGRG 1120 - Introduction to Food Products (4 cr)

This course will provide a general over view and principles of agriculture products and their relation to the food industry. Students will learn about the transportation, processing, packaging, whole sale to retail, preservation, quality factors, food law and regulations, food safety and sanitation and environmental concerns, issues of the food industry agricultural products. Prerequisite(s): None.

AGRG 1500 - Careers in Agriculture Education (1 cr)

Observe schools, Extension offices, Farm Business Management programs, and agricultural oriented businesses to learn about work/workplace in agricultural education. Prerequisite(s): None.

AGRG 2500 - Early Experience Agriculture Education (1 cr)

Observe schools, Extension offices, Farm Business Management programs, and agricultural oriented businesses to learn about work/workplace in agricultural education. Prerequisite(s): None.

Farm Operations & Management

AGRI 1104 - Ag Economics (2 cr)

This course introduces the general concepts of contemporary economics in the agricultural world. Students will study the effects of microeconomics, macroeconomics, and supply and demand on the farm business. Prerequisite(s): None.

AGRI 1110 - Farm Records & Budgeting (2 cr)

In this course, students enter a case farm into an approved farm accounting book including monthly transactions and a simple farm financial analysis. Students will complete budgets for the coming year using actual numbers from his/her own farm using various formats. Prerequisite(s): None.

AGRI 1120 - Crops Marketing I (2 cr)

This course acquaints students with an understanding of market forces and their relationship to price establishment of agricultural crops. Students will track prices and develop a price chart to help in marketing crops produced on their farm. Prerequisite(s): None.

AGRI 1130 - Machinery Management (2 cr)

This course introduces students to machinery management and the typical problems which could determine profit and loss. How much machinery, what size, how acquired, alternatives to owning, and machine costs are all studied in machinery management. Prerequisite(s): None

AGRI 1140 - Cereal Production (2 cr)

This course acquaints students with the latest management practices and research findings in the production of cereal crops. Prerequisite(s): None.

AGRI 1150 - Soil Maintenance & Fertility (3 cr)

This course provides students an understanding of soil types, textures, and plant nutrients in relation to plant growth. Fertilizer materials are studied in depth. Soil test results are interpreted and fertilizer recommendations are made based upon the soil test results. Basic land surveying, including land descriptions, land measurements, and drainage, is also included. Prerequisite(s): None.

AGRI 1160 - Establishment in Farming (2 cr)

This course acquaints students with concepts of establishing a farm business. The course assists students in utilizing the resources available to them. Prerequisite(s): None.

AGRI 1172 - Corn Production (1 cr)

The course acquaints students with the latest management practices and research findings in production of corn. The students will study varieties, weed control, insect control, diseases, and economics of producing corn. Prerequisite(s): None.

AGRI 1192 - Soybean Production (1 cr)

This course acquaints students with the latest management practices and research findings in the production and marketing of soybeans. Prerequisite(s): None.

AGRI 2202 - Dry Bean Production (1 cr)

This course acquaints students with the latest management practices and research findings in the production and marketing of dry edible beans. Prerequisite(s): None.

AGRI 2206 - Rural Leadership (1 cr)

In this course, students will learn principles of basic leadership skills, including parliamentary procedure, public speaking, knowledge of government operations and personnel. Prerequisite(s): None.

AGRI 2210 - Farm Analysis & Finance (3 cr)

This course is a study of the general principles in farm accounting and financial analysis. Students will complete a case accounting problem and complete all necessary analyses for understanding financial statements. Students will be exposed to the different credit agencies available and what they have to offer to beginning farmers. They will learn what is required of them to obtain credit. Communication between lender and the farmer is also discussed. Students will solve different types of loan problems. Prerequisite(s): AGRI1110.

AGRI 2220 - Crops Marketing II (2 cr)

This course acquaints students with the tools available to market farm commodities and to develop a marketing plan. The course covers the current management practices of conditioning, storage and handling of agricultural commodities. Prerequisite(s): None.

AGRI 2222 - Sugar Beet Production (1 cr)

The course acquaints students with the latest management practices and research findings in production of sugar beets. The students will study varieties, weed controls, insect control, diseases, and economics of producing sugar beets. Prerequisite(s): None.

AGRI 2230 - Farmstead Improvement (2 cr)

This course introduces the students to the basic objectives in laying out a farmstead. The fundamentals of electricity are studied, including safety and adequacy of farm and home electric power distribution. Students will complete practical wiring exercises, diagram circuits, and design a farm shop. Prerequisite(s): None.

AGRI 2240 - Farm Computerized Records (1 cr)

This course provides hands-on experience with accounting programs. Students enter a case problem into the computer using the appropriate accounting software available to manage farm records. Prerequisite(s): AGRI1110.

AGRI 2250 - Welding I (1 cr)

This course covers welding shop and personal safety. Students will be introduced to proper methods and techniques of operating shielded metal arc welding (SMAW), gas metal arc welding (GMAW), oxy-acetylene welding (OAW), oxy-acetylene cutting, and brazing, along with Plasma cutting equipment, which will be helpful in the operation and maintenance of farm equipment. Prerequisite(s): None.

AGRI 2260 - Agricultural Chemicals (2 cr)

This course introduces students to agricultural chemicals, their uses, characteristics, equipment involved and safety during chemical use. Prerequisite(s): None.

AGRI 2280 - Farm Tax/Estate Planning (3 cr)

This course covers a study of the general principles involved in Farm Tax Management and methods available to transfer the farm business to the next generation. Prerequisite(s): None.

AGRI 2290 - Internship (1 cr)

This course provides students with the practical application of a research project or practice. Each internship is an individualized project. The student, under the supervision of the instructor, will research a new product or practice, apply it to a farming operation, and report on the project to the other students enrolled in the course. Prerequisite(s): None.

Animal Science

ANSC 1200 - Animal Evaluation (1 cr)

This course will investigate animal conformation, form to function, breed characteristics and type. Evaluation of their body makeup in relationship to food products such as meat and dairy. Prerequisite(s): None.

ANSC 2200 - Animal Feeds/Nutrition (4 cr)

This course provides basic information about the fundamentals of ruminant and non-ruminant nutrition. Students will examine the essential nutritional requirements of livestock, classifications, identification and evaluation of feed grains/forages, bushel weights, nutritional characteristics of feedstuffs, comparative study of digestive system of farm animals, ration formulation, and feed processing methods. Prerequisite(s): AGRG1110.

ANSC 2300 - Animal Health/Disease (4 cr)

This class will review concepts of health and disease with emphasis on prevention through health plans and enhancing immunity. Influence of environment and other stressors on health and disease. Zoonotic diseases will be covered. Emphasis will be placed on preventive health. Prerequisite(s): AGRG1110.

ANSC 2400 - Livestock Management (3 cr)

This course will examine planning, evaluating, managing and creating livestock facilities, handling equipment and rangeland based on proven field practices and technological advances. Environmental livestock concerns will be addressed in this class. Prerequisite(s): AGRG1110.

ANSC 2950 - Beef Production 4 cr)

This course will review basic beef production and management which includes the cow-calf and feedlot operations. Beef production will include the incorporation of economics, farm management, records, health and production science in management plans. Prerequisite(s): AGRG1110.

ANSC 2960 - Animal Anatomy & Physiology (4 cr)

Students will examine anatomy/physiology of several species ranging from companion animals, wildlife and livestock. Organization of body from cells into tissues/organs to systems. Identification, function, development and comparison/contrast of different species and their systems. Identify pathological conditions which relate to the bodies systems. Prerequisite(s): AGRG1110.

Anthropology

ANTH 2201 - Physical Anthropology & Arch (3 cr)

(Fulfills MNTC Areas: 5, 10) This course is a study of humans as biological beings subject to the processes of evolution through an investigation of fossil evidence using archaeological methods. Differences and similarities among primates and variation in modern human populations in the New and Old Worlds will be investigated. Prerequisite(s): None.

ANTH 2202 - Cultural Anthropology (3 cr)

(Fulfills MNTC Areas: 5, 8) This course is a study of the richness of human cultural diversity and the creativity of adaptation strategies to the physical and social environments. Particular attention is directed to the methods used in cultural anthropology and to the functions and diversity of social institutions such as family, religious, economic, and political organization, as well as other major cultural features. Prerequisite(s): None.

Architectural Technology & Design

ARCH 1105 - Building Technology I (4 cr)

This course introduces students to residential drafting practices. Students will gain knowledge in acceptable

standards of architectural drafting and working knowledge of light construction, including terminology, methods of construction, and the functions of various building materials. Prerequisite(s): None.

ARCH 1111 - Architectural Technology I (3 cr)

This course introduces students to the equipment and procedures used in drafting, including its application to a basic residential floor plan. This will give students the basic knowledge required of an architectural draftsperson. Prerequisite(s): None.

ARCH 1112 - Architectural Technology II (4 cr)

This course introduces students to advanced concepts related to light frame construction. Students will become familiar with the layout of residential working drawings, with an emphasis on the drawing and specifications required in residential construction. Prerequisite(s): ARCH1105, ARCH1111, ARCH1121.

ARCH 1121 – Computer Aided Design I (5 cr)

This course is designed for students with little or no background in computer-aided design (CAD). Students will review the Microsoft Windows environment and be introduced to computer aided design features. Prerequisite(s): None.

ARCH 1123 – Computer Aided Design II (5 cr)

A continuation of CAD I, students will receive advanced training on recent releases of AutoCAD to provide experience in developing technical drawings related to field of architecture. This course will cover the advanced drawing, editing, paperspace, and external reference commands. This course will also introduce students to building information modeling (BIM) using 3D drawing software for residential architectural drawings. Prerequisite(s): ARCH1111, ARCH1121.

ARCH 1125 - Design Limitations (3 cr)

This course teaches the understanding and proper use of various ruling authorities which may redirect their design solutions. Emphasis is on studying the International Building Code, American National Standards Institute (ANSI) Accessibility Standards, the American Disabilities Act (ADA) and more. Prerequisite(s): None.

ARCH 1128 - Environmental Design (3 cr)

This course will help students understand the importance of environmental issues and how to use them in their design process. This will allow them to put to use natural forces to help mold a building that is sensitive to the environment. Prerequisite(s): None.

ARCH 1131 - Model Construction (2 cr)

This course teaches the student to construct architectural models using architectural standards and techniques with various materials. This course assists students in expressing their creative concepts. Prerequisite(s): None.

ARCH 1201 - Estimating Techniques I (2 cr)

This course gives students a basic understanding of the estimator's place in the construction process. Students will learn about the basic layout of contract documents and the fundamentals of estimating, including take-offs of materials used in light-frame structures. There will be emphasis on accurate analyses of working drawings. Students should have a basic understanding of construction methods and techniques. Prerequisite(s): ARCH1105, ARCH 1111.

ARCH 2211 - Architectural Technology III (3 cr)

This course introduces students to commercial architectural drafting and detailing practices. Students will apply concepts of architectural drafting to the design and drafting of commercial building details and layouts. Students will be required to draw a set of commercial contract drawings using computer aided drafting (CAD). Prerequisite(s): ARCH1105, ARCH1112, ARCH1123.

ARCH 2212 - Architectural Technology IV (4 cr)

In this course students will apply principles of architectural drafting and design to create a set of working drawings for a multi-family dwelling. There will be an emphasis on code compliance, proper drafting techniques, and level of completion to industry standards as it applies to multi-family buildings. Prerequisite(s): ARCH1123, ARCH2211, ARCH2213.

ARCH 2213 - Building Technology II (4 cr)

This course is designed to give students advanced skill and knowledge in commercial architectural drafting and

design. Students will prepare construction details applicable to commercial construction using practices and principles of building construction and related terminology. Prerequisite(s): ARCH1105, ARCH1123.

ARCH 2215 - Building Systems (3 cr)

This course combines fundamental architectural drafting concepts, mechanical and electrical systems, and required building codes related to building projects that integrate systems. Types, properties, and qualities of various building systems and materials will be examined. Students will apply these concepts to create construction drawings. Prerequisite(s): ARCH1111, ARCH1112, ARCH1121, ARCH1123.

ARCH 2220 – Computer Aided Design 3D (4 cr)

This course covers the advanced aspects of building information modeling (BIM). Using 3D drawing software students will develop a commercial project and produce construction documents. Prerequisite(s): ARCH1123.

ARCH 2223 – Computer Aided Design 3D Adv (4 cr)

This course is a continuation of ARCH 2220 CAD 3D. This course also covers the advanced aspects of the software regarding custom template and family creation. Prerequisite(s): ARCH1121, ARCH2220.

ARCH 2224 - Content & Project Mgmt (3 cr)

This course will introduce students to project management software. This course will also examine creating custom content in a 3d drawing software and specifics regarding the Computer Aided Design (CAD)/3d drawing software interchange. Prerequisite(s): ARCH1121, ARCH1123

ARCH 2226 - Presentation (4 cr)

This course is designed for using software to model and render design images. Upon completion, the user will be able to navigate through and utilize the 3D modeling software program to create architectural presentation drawings. Prerequisite(s): None.

ARCH 2241 - Architectural Design (4 cr)

This course covers the basics of architectural design and terminology. This enables students to converse with architects and other design professionals regarding the design process. Prerequisite(s): ARCH1111, ARCH1112, ARCH1121, ARCH1123.

ARCH 2295 - Portfolio (1 cr)

The development of a portfolio may be used for job interviews and acceptance to universities. In this competitive work environment students need to be a step above the competition in their pursuit of employment. The compilation of a portfolio is the most professional way to accomplish this. Students will be better prepared for the interview process through this course. This is a culmination of student's work throughout the 2 years. Prerequisite(s): Course to be taken in the final spring semester before they graduate.

Art

ARTS 1101 - Art Appreciation (3 cr)

(Fulfills MNTC Area: 6) Art Appreciation discusses the background, meanings, symbolism, trends and styles of art. Additionally, artistic methodology and techniques are also covered. The student discovers what is embodied in a work of Art as well as to stimulate individual creativity. Prerequisite(s): None.

ARTS 1111 - Basic Drawing I (3 cr)

(Fulfills MNTC Area: 6) Basic Drawing I introduces students to the basic techniques and traditions of drawing. Students are exposed to the work of artists, draftsmen, and illustrators, and are subsequently guided through a wide variety of drawing experiences and applications. Prerequisite(s): None.

ARTS 1112 - Life Drawing (3 cr)

(Fulfills MNTC Area: 6) Life Drawing builds upon the techniques introduced in Drawing I and introduces students to the techniques and traditions of figurative drawing. Students are exposed to the work of artists known for their work with the human figure. Students will be working from live models and focusing specifically on issues directly relating to figure drawing. Prerequisite(s): ARTS1111.

ARTS 1125 – Introduction to Art I-2D Design (3 cr)

(Fulfills MNTC Area: 6) This course is an introduction to the basic elements of art (line, shape, form, color, texture, value, space, and time) and how they are used in conjunction with the principles of design to create

and develop two-dimensional compositions. This course is designed to give students a good foundation upon which they can build their artistic skills and further their creative aspirations. Prerequisite(s): None

ARTS 1126 – Introduction to Art II-3D Design (3 cr)

(Fulfills MNTC Area: 6) This course is an introduction to the basic elements of art and how they are used in conjunction with the principles of design to create and develop three-dimensional compositions. This course is designed to give students a good foundation upon which they can build their artistic skills and further their creative aspirations. Prerequisite(s): None.

ARTS 1130 - Introduction to Photography (3 cr)

This course is designed to meet the needs of students who wish to utilize photography recreationally as well as serving as an introduction to those wishing to use photography to further their own artistic, scientific, or technical goals. In addition, students will have the opportunity to learn basic camera operation, the developing and printing of black and white film, and basic composition as it relates to artistic and narrative photography. Prerequisite(s): None.

ARTS 1131 - Digital Photography (3 cr)

This class is a foundation-level course in digital photography and digital image capturing. Topics covered include basic camera use, lighting, computer techniques and imaging software relative to the manipulation and correction of digital images.
Prerequisite(s): None.

ARTS 1156 – Introduction to Painting (3 cr)

(Fulfills MNTC Area: 6) This course is an introduction to the materials, methods, and techniques of painting which includes contemporary and historical approaches, as well as the theoretical bases of 20th and 21st century fine art painting. Prerequisite(s): None.

ARTS 1157 - Introduction to Printmaking (3 cr)

(Fulfills MNTC Area: 6) This course is an introduction to the materials, methods, and techniques of fine art printmaking including mono-printing, etching, relief printing, and lithography. It also includes contemporary and historical approaches, as well as the theoretical bases of 20th and 21st century fine art printmaking.

ARTS 1160 - Sculpture-Bronze Casting (3 cr)

This course is an introduction to the materials, methods, aesthetics, and techniques of sculpture in general and, specifically, the techniques associated with lost-wax bronze casting. Prerequisite(s): None.

ARTS 2000 - Advanced Studios (3 cr)

This course provides individual investigation into one or more of the following disciplines of art: Drawing, Painting, Photography, Sculpture, Printmaking. Students work in areas of particular interest to the individual. Class structure is based upon a contractual agreement between the individual student and instructor who determines the type and amount of work to be completed for the semester. Emphasis is on continued refinement of introductory-level technical skills, media, investigation, and concept. Prerequisite(s): Specific to each discipline: ARTS1111, ARTS1130, ARTS1156, ARTS1157, ARTS1160 or with the prior consent of the instructor.

ARTS 2233 - Art: Paleo-Gothic (3 cr)

(Fulfills MNTC Area: 6, 7) This course provides an investigation of civilization and of the history of art from the Pre-Historic through the Gothic period in Europe. Prerequisite(s): None.

ARTS 2234 - Art: Gothic-Today (3 cr)

(Fulfills MNTC Areas: 6, 7) This course provides an investigation of civilization and of the history of art from the Renaissance through the Impressionist Movement. Prerequisite(s): None.

Autobody Collision Technology

AUBO 1100 - Introduction to Auto Body (2 cr)

This course is the study of occupational safety, shop operation procedures, power and hand tool use, shop equipment applications, fasteners, measuring instruments, service literature and general service knowledge and skills. Prerequisite(s): None.

AUBO 1102 - Off Car Repair (4 cr)

This course teaches students sheet metal repair processes used for minor auto body repairs. Instruction includes the use of tools and auto body industry equipment. Students also learn skills of body filler/fiberglass repair along with corrosion protection.

Environmental standards will be introduced. Prerequisite(s): None.

AUBO 1106 - Plastic Welding (1 cr)

This course covers the identification and safe repair of interior/exterior automotive plastics and overall refinishing techniques for plastic surfaces. Prerequisite(s): None.

AUBO 1113 - Auto Body Lab I (3 cr)

This course is a lab course in which students will build proficiency in basic auto body skills achieved in prior courses. Welding, sheet metal repair, corrosion protection, rust repair, body filler and fiberglass repair will be addressed. Prerequisite(s): None. Corequisite: AUBO1131.

AUBO 1114 - Auto Body Lab II (4 cr)

This course is a lab course in which students will build proficiency in auto body skills of refinishing, corrosion protection, rust repair, moveable glass repair, and welding. Prerequisite(s): AUBO1113.

AUBO 1121 - Auto Body Refinishing (6 cr)

This course teaches surface preparation for spot repairs, blending techniques, overall refinishing, paint mixing, and color matching. This course will also cover buffing procedures, pin striping, and vehicle reconditioning for customer delivery. Prerequisite(s): None.

AUBO 1123 - Glass & Trim (2 cr)

This course teaches students safe procedures for the removal, replacement and repair of movable glass. It also covers the application of various methods of attachments on auto body trim and hardware. Prerequisite(s): None.

AUBO 1131 - Auto Body Welding I (2 cr)

This course introduces the student to welding safety, welding, and cutting fundamentals. The course provides the theory of welding and the training to develop the necessary skills to cut and weld materials in a variety of positions using various methods. Prerequisite(s): None.

AUBO 1132 - Auto Body Welding II (2 cr)

This course is a lab course in which students will build proficiency in welding skills and also introduces aluminum welding. Prerequisite(s): AUBO1131.

AUBO 2201 – Collision Damage and Estimating (4 cr)

This course teaches students to correctly repair collision damage. It emphasizes tie-down clamping techniques, analyzing extended damage, measuring, and pulling procedures to repair direct and indirect damage on open and closed panels. All vehicles that enter the shop will be given an estimate of repair either written or computerized. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2205 - Unibody & Frame (4 cr)

This course teaches students safe repair of unitized and conventional frame vehicles. Instruction will include tie down and clamping techniques, measuring and clamping procedures to repair damage. Stationary glass removal and replacement are taught. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2208 - Major Collision Lab (4 cr)

This course is a lab course in which students build proficiency in their auto body repair skills. Content for this lab is chosen from among the skills already gained in other courses. Emphasis in the course is on major collision repair. Students will also be expected to exhibit attitudes and work habits that employers expect of their employees. Prerequisite(s): AUBO2205.

AUBO 2214 - General Auto Body Lab (4 cr)

This course is a lab course in which students will build proficiency in their auto body skills. Content for this lab is chosen from among the skills already gained in other courses. Emphasis in this course is on unibody and frame repair. Students will also be expected to exhibit the attitudes and work habits that employers expect of their employees. Prerequisite(s): AUBO1132.

AUBO 2216 - Shop Operations (2 cr)

This course teaches proper autobody shop management procedures and collision damage estimating, utilizing both collision manuals and computer estimation. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2221 - Simulated Auto Body I (4 cr)

This course provides a work-place like setting for students to refine their knowledge and skills with the materials, methods, and refinishing techniques used in the repair and restoration of damaged automobile bodies. The students will also practice proper procedures for repair and refinishing, as well as use manufacturers' manuals and parts catalogues to estimate and repair damage to vehicles and maintain accurate records of completed auto body work. Emphasis will be placed on time management skills and attitudes expected in the workplace. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2222 - Simulated Auto Body II (2 cr)

This course provides a work-place setting for students to further refine their auto body repair skills. Students will complete service work as if in a professional auto body shop, and the emphasis will be on auto body and frame repairs frequently requested in a modern body shop. Speed and quality work against the time clock and flat rate shop conditions will be simulated as much as possible. Students will also be expected to exhibit the attitudes and work habits that are expected in the workplace. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2225 - Panel Replacement (2 cr)

This course covers the replacement of damaged panels using current industry procedures. Prerequisite(s): Completion of first year Auto Body Collision Technology.

AUBO 2228 - Auto Body Mechanical (6 cr)

This course teaches the procedures required to check and diagnosis of the air bag systems, including computers, sensors, and seat belt restraints. It also 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. It also teaches students the removal and replacement of mechanical and electrical parts in front and/or rear wheel drive vehicles. Prerequisite(s): Completion of first year Auto Body Collision Technology.

Automotive Service Technology

AUMO 1103 - Introduction to Auto Service (2 cr)

This course teaches the procedures for general automotive service. General maintenance and inspection of common service areas are emphasized including: exhaust and lubrication systems, shop safety, and the use of automotive tools and equipment. It also covers general service product knowledge. This course includes the procedures for general automotive service. Students will learn the characteristics of hazardous/infectious wastes and demonstrate safe handling, storage, and disposal. Prerequisite(s): None.

AUMO 1109 - Steering & Suspension (3 cr)

This course teaches suspension systems using leaf and 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/power rack/pinion systems. Prerequisite(s): AUMO1103.

AUMO 1111 - Brakes (5 cr)

This course teaches principles of brakes, hydraulic system fundamentals, disc and drum brakes, parking brakes and power assist units. Emphasis is on operation, diagnosis and repair of various types of braking systems. Prerequisite(s): AUMO1103.

AUMO 1112 – Ignition and Tune-up (3 cr)

This course teaches the theory and principles of operation for ignition systems used in non-computerized automotive engines. Diagnosis, adjustments and repair of component parts and the introduction of engine analyzers will also be covered. Prerequisite(s): AUMO1103.

AUMO 1116 - Basic Electricity & Battery (3 cr)

This course provides an overview of essential automotive electrical systems, with an introduction to theory and preliminary troubleshooting techniques. Prerequisite(s): AUMO 1103

AUMO 1118 – Starting and Charging Systems (3 cr)

This course teaches battery construction, service, and testing. This course also presents theory/function of cranking motors and charging systems. Failure analysis

and repair according to manufacturer's procedures will be followed. Prerequisite(s): AUMO1103

AUMO 1125 - Driveline/Clutch/Manual Trans (4 cr)

This course will include the study of power train components including: drive axles, propeller shafts, clutches, clutch service, and the operation of manual transmissions. Practical training will include: axle shaft, propeller shaft, transmission and differential disassembly, proper reassembly, malfunction diagnosis, adjustments and repairs.
Prerequisite(s): AUMO1103

AUMO 1133 - Auto HVAC (3 cr)

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 systems. Prerequisite(s): AUMO1103.

AUMO 1134 - Wheel Alignment (3 cr)

This course teaches the theories and principles of wheel alignment. Also covered is inspection of suspension-related components related to the performance of quality wheel alignment. Students are required to check and adjust wheel alignment angles, such as: castor, camber, and toe on various suspension systems. Prerequisite(s): AUMO1103.

AUMO 1138 - Hybrid Vehicle Systems (1 cr)

This course will cover the safety issues and differences between hybrid drive vehicles. The basic theory of the components used in various hybrid will also be described. Prerequisite(s): AUMO1103.

AUMO 2202 - Body Electrical (3 cr)

This course teaches diagnosis and repair of interior/exterior lighting, safety devices, and comfort systems. The students will use wiring diagrams to pinpoint body electrical malfunctions. Prerequisite(s): AUMO1103, AUMO1116.

AUMO 2204 - Automotive Computers (3 cr)

This course covers the theory and operating principles of automotive computers, sensors, and control devices. The course prepares students for analysis by utilizing modern automotive computer scanners in studying sensor input, processor function, and output controls to the various devices controlling the modern automobile. Analog/digital inputs and outputs will be studied and analyzed. Prerequisite(s): AUMO1103, AUMO1116.

AUMO 2207 - Fuels/Fuel Injection/Emissions (5 cr)

This course teaches the theory and principles of automotive fuel systems, including carburetors, fuel pumps, fuel tanks and filters. This course also teaches fuel injection and emission system theories. The principles of operation, component testing, and servicing will be studied. Emphasis will be on computer control of fuel delivery for single, multi-port, and sequential fuel injection systems. Component function, troubleshooting, testing, replacement of failed parts, and adjustments will be performed. Prerequisite(s): AUMO1103.

AUMO 2208 - Engine Theory/Diagnostics (4 cr)

This course covers fundamentals of engine operation and repair and maintenance. Procedures for diagnosis with usage of proper equipment for analysis of data, as compared to manufacturer's specifications, to determine engine condition and repair. Troubleshooting with specialized equipment is required. Prerequisite(s): AUMO1103.

AUMO 2210 - Drivability (4 cr)

This course develops skill in diagnosis, testing, and correction of problems related to engine performance. Servicing of individual vehicle systems are performed. Prerequisite(s): AUMO1103, AUMO1112, AUMO2207.

AUMO 2212 - Auto Transmission & Transaxle I (5 cr)

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): AUMO1103.

AUMO 2231 - Independent Study Lab 1-3 (5 cr)

This course allows students lab time to work on skills in the auto trade. Prerequisite(s): AUMO1103.

AUMO 2233 - Engine Overhaul Lab (4 cr)

Students will disassemble, rebuild, measure, evaluate, assemble, and adjust engines and their components. Projects will be approved by instructors. Prerequisite(s): AUMO1103.

Aviation Electronics Technician

AVET 2131 - Avionics I (5 cr)

This course offers students a working knowledge of principles required to maintain and operate electrical components of manned and unmanned aerial systems (UAS). The student will develop a comprehensive understanding of aircraft avionics principles for the safe maintenance of aircraft electronic avionics systems. Prerequisite(s): None.

AVET 2141 - Avionics II (4 cr)

This course offers students a working knowledge of principles required to transfer information between various components of unmanned aerial systems. Radio frequency propagation methods for transmission and reception of various aviation communication and data link systems will be covered. Prerequisite(s): AVET 2131.

Aviation Maintenance Technology

AVIA 1101 - Aviation Basics (6 cr)

This course reviews program policies, technician privileges and limitation as set by Federal Aviation Regulations, familiarization with government and industry publications and records, ground operations and servicing of various aircrafts. Students learn about hardware material and hand tools used in construction, repair and maintenance of aircraft, including metal alloys and their heat-treatment, fluid lines and fittings, aircraft cable systems and precision measurements. Prerequisite(s): None.

AVIA 1102 - Math & Physics (2 cr)

This subject area reviews the principles of applied mathematical functions. It covers signed numbers, roots, exponents, simple equations, geometry, algebra and their applications to the Aviation Maintenance Technician. Also included is the understanding of energy, matter, principles of simple machines, sound, fluids, heat dynamics and how their relationships apply to aircraft maintenance. Prerequisite(s): None.

AVIA 1104 - Weight & Balance (2 cr)

This course covers basic drawing knowledge, practice, and application to understand and create basic drawings and sketches. This course also covers weight and balance including weighing of aircraft, calculating empty weight, empty weight C/G, equipment change calculations, and record keeping. Prerequisite(s): None.

AVIA 1105 - Basic Electricity (5 cr)

This course covers the basics of direct current (DC) electricity, electron theory, DC circuits, Ohm's law, multimeters and their use, the basics of alternating current (AC) electricity, AC meters and measurements, solid-state devices, capacitors, inductors, transformers and AC circuits and the basics of operation and maintenance for lead-acid and nickel-cadmium batteries. Prerequisite(s): None.

AVIA 1107 – Inspection and Treatments (3 cr)

This course covers the use of various non-destructive methods of inspection and identifies various types of corrosion and their causes and prevention. Prerequisite(s): None.

AVIA 1110 - Shop Tools/Hardware (1 cr)

This course covers the hardware, materials, hand tools, and power tools used in safe construction, repair, and maintenance of aircraft. Prerequisite(s): None.

AVIA 1120 - Airframe Inspection (3 cr)

Students learn the essential knowledge to develop the skills required to inspect the condition of an aircraft. Prerequisite(s): AVIA1101, AVIA1125, AVIA1127.

AVIA 1121 - Nonmetallic Structures (5 cr)

Students develop construction and repair experience on nonmetallic and composite structures. Prerequisite(s): None.

AVIA 1123 - Sheet Metal (6 cr)

Students will learn basic sheet metal structures and repairs, stresses and loads that structures are subjected to, and the correct use of various types of fasteners and repair tools. The course covers inspection, preparation, including sheet metal damage assessment, repair layout

and welding equipment, inspections, and techniques. Prerequisite(s): None.

AVIA 1125 - Hydraulics/Landing Gear (6 cr)

The course covers hydraulic and pneumatic systems, their components, operation and servicing, landing gear systems, including wheels, brakes and tires for aviation mechanics. Prerequisite(s): None.

AVIA 1127 – Environmental Assy & Rigging (6 cr)

The course covers the theory and maintenance of aircraft interior and exterior environmental systems and landing gear systems. Prerequisite(s): None.

AVIA 2201 - Reciprocating Theory and Maint (7 cr)

Students will gain a thorough knowledge of reciprocating engine types, construction, nomenclature, operating principles, component inspection and manufacturers' overhaul procedures and requirements, as well as reciprocating engine maintenance. Prerequisite(s): None.

AVIA 2203 - Turbine Engine Theory and Maint (7 cr)

This course covers the fundamentals of aircraft gas turbine engines and the overhaul, removal, installation and troubleshooting techniques of turbine engine maintenance. Prerequisite(s): None.

AVIA 2205 - Ignition/Fuel Metering/Pwrplt Sys (8 cr)

Students will learn about ignition systems on reciprocating and turbine powerplants with attention given to the requirements, design and operation of magnetos and capacitor discharge ignition. Experience is provided in inspection, timing, repair and troubleshooting of systems as well as powerplant systems training and practice. Prerequisite(s): None.

AVIA 2207 - Propellers/Powerplant Inspection (5 cr)

Students will learn the necessary technical knowledge and mechanical skills needed to work with propellers, the essential knowledge and skills to inspect, troubleshoot and repair aircraft, and learn techniques of powerplant inspections. Prerequisite(s): AVIA1101, AVIA2201, AVIA2203, AVIA2205.

AVIA 2223 – Fire Protection/Fuel/Inst Systems (4 cr)

This course covers principles of operation and maintenance of fire detection and extinguishing systems operation, inspection, troubleshoots and repair of fuel systems and covers theory, operation, maintenance and inspection of instrument systems. Prerequisite(s): None.

AVIA 2225 - Electric Troubleshooting (8 cr)

The course covers basics of electrical systems and troubleshooting of electrical circuits and systems. It also covers the theory, operation, inspection and minor maintenance of communication and navigation systems. Prerequisite(s): AVIA1105.

Biology

BIOL 1004 – Introduction to Anatomy & Phys (3 cr)

This course assists students in developing a basic understanding of the normal structure and function of the human body. Prerequisite(s): None.

BIOL 1101 - Concepts of Biology (4 cr)

(Fulfills MNTC Areas: 3, 10) Introduces non-science majors to the basic concepts of biology. Topics will include, but are not limited to, cell structure and function, genetics, hereditary and evolution, the diversity of life; including plants, animals, and microorganisms, and ecology. Lecture and lab. Prerequisite(s): None

BIOL 1111 - Biological Principles I (4 cr)

(Fulfills MNTC Areas: 3, 10) 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. Prerequisite(s): None.

BIOL 1112 - Biological Principles II (4 cr)

(Fulfills MNTC Areas: 3, 10) This is an introductory level course that introduces the concepts of macroevolution, the 6 kingdoms system of classification, comparative study of representatives of the 6 kingdoms with special emphasis on plants and animals, the concept of biomes, and the role of human activities and their effects on the ecological balance of the biosphere. This course

includes 3 lecture hours and 2 lab hours per week. Prerequisite(s): None.

BIOL 1120 - Human Biology (4 cr)

(Fulfills MNTC Areas: 3, 10) This course is intended for non-science majors. This course is an introductory level course where students study the biological basics of human structures and functions. Emphasis of the course will be with references to reproduction, heredity, development, nutrition, disease, and social implications of human biological principles. This course includes 3 lecture hours and 2 lab hours per week. Prerequisite(s): None.

BIOL 1131 - Introduction to Natural Resources (3 cr)

(Fulfills MNTC Area 10) This course is an overview of the complexities involved in the managing of our natural resources, emphasizing North America. In addition, the course will familiarize students with natural resource issues and agencies, and the function and responsibilities those agencies have. Prerequisite(s): None

BIOL 2131 - Nutrition (3 cr)

(Fulfills MNTC Area: 3) This course provides an introduction to nutritional dietary requirements and their mechanisms of digestion, absorption, and metabolism. It also addresses the principles of nutrition throughout the human life cycle, and diet modification necessitated by specific health problems. Other topics to be covered include sports nutrition, weight control, eating disorders, diet and disease, and current nutritional fads. Throughout the course a lab like experience will be used to analyze and interpret topics covered. Prerequisite(s): None.

BIOL 2221 - Microbiology (3 cr)

(Fulfills MNTC Area: 3) This course is an introduction to fundamental theories, principles and methods of microbiology. Structure, effects of physical factors, and inhibition and killing of microorganisms will be studied. Microbial interactions with humans and their immune systems are introduced. Students are familiarized with concepts in environmental microbiology, evolution and microbial species diversity as well as the necessary laboratory techniques needed to study those organisms. Prerequisite(s): None.

BIOL 2235 - Biology Internship 3-6 (3 cr)

This course is a practical learning experience in a biological environment, providing field application in the student's area of interest. Prerequisite(s): 30 college credits completed and instructor permission,

BIOL 2252 - Anatomy & Physiology I (3 cr)

(Fulfills MNTC Areas: 3, 10) Students study the structure, function, and disease processes of cellular physiology, homeostasis, integumentary, respiration, lymphatics, immunity, heart, blood, joints, skeletal and muscular systems in the human body. This course also investigates the impact of environmental influences on the human body as well as the effects of the environment and genetics on disease processes. This course includes 2 lecture hours and 2 lab hours per week. Prerequisite(s): None.

BIOL 2254 - Anatomy & Physiology II (3 cr)

(Fulfills MNTC Areas: 3, 10) This is an advanced course that acquaints students with the structure, function, and disease processes of: nerve tissue, central nervous, endocrine, digestion, nutrition, urinary, reproduction, development and genetic systems in the human body. This course will also investigate the impact of environmental influences on the human body as well as the effects of the environment and genetics on disease processes. This course includes 2 lecture hours and 2 lab hours per week. Prerequisite(s): None.

BIOL 2256 - Advanced Physiology (2 cr)

(Fulfills MNTC Area: 3) This course will increase students' understanding of the mechanisms involved in the normal functioning of the human body, with lesser emphasis regarding the effects of disease on that function. Focus is on the interaction and integration of body processes. This course requires a thorough knowledge of basic anatomy and physiology. Prerequisite(s): BIOL2254, or instructor permission.

Building Technology

BLDG 1102 - Construction Safety (1 cr)

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

BLDG 1106 - Grades/Cap/Elec Calc (3 cr)

This course covers the application of mathematics to plumbing and HVAC calculations in applying code regulations pertaining to plumbing, heating, and cooling installation. Students will use formulas common to the plumbing and HVAC industry. Prerequisite(s): None.

BLDG 1114 - Blueprint Reading I (2 cr)

This course provides students with a working knowledge of blueprints and specifications. Student gain an understanding of blueprints, interprets and applies this knowledge to job situations. Prerequisite(s): None.

BLDG 1120 - Construction Estimating I (2 cr)

This course covers the mathematical procedures used in material estimating and completing quantity take-offs for building projects. Prerequisite(s): None.

Business

BUSN 1110 - Introduction to Business (3 cr)

This course is an introductory survey of the major areas of business and its environment. The course is designed to explain the environment and language of business. The course will examine the major functional areas of business: accounting, finance, marketing and management. The course will explore social, ethical, and global issues that impact businesses. Prerequisite(s): None.

BUSN 1115 - Personal Financial Management (3 cr)

This course emphasizes the importance of personal financial management. The course will explore issues in individual financial planning and budgeting, management of money, and protection against losses. Topics covered will include retirement planning, tax planning, credit management, and time value of money. Making the most of available financial resources through informed decisions about saving, investing, borrowing, and use of insurance to manage risks is also covered. Prerequisite(s): None.

BUSN 2203 - Business Statistics (4 cr)

This course covers the basic concepts of elementary statistics including descriptive statistics, elementary probability, probability distributions, confidence intervals, hypothesis testing, correlation, chi-square tests, ANOVA, statistical inference, and linear and multiple regression. Prerequisite(s): MATH0094 or MATH0098, or appropriate Math assessment score.

BUSN 2210 - Principles of Management (3 cr)

This course is designed to expose students 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.

BUSN 2218 - Legal Environment of Business (3 cr)

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 employer/employee relationships. Prerequisite(s): None.

BUSN 2221 - Principles of Accounting I (4 cr)

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, calculating payroll, inventory and depreciation methods. Prerequisite(s): None.

BUSN 2222 - Principles of Accounting II (4 cr)

This course is a continuation of BUSN2221. Topics will include partnership and corporate capital structures, long-term debt and capital stock transactions, cash flow activities, and analyses of accounting information. In addition, managerial accounting procedures and concepts, including product costing, cost planning, and budgeting will be introduced. Prerequisite(s): BUSN2221.

Carpentry

CARP 1102 - Principles of Framing (3 cr)

This course provides an understanding of the principles of floor, wall, stair and roof framing. Prerequisite(s): None.

CARP 1104 - Framing I (6 cr)

This course provides experience in constructing basic floor frames, wall frames, stair frames, ceiling and roof frames. Prerequisite(s): none.

CARP 1106 - Footings & Foundations (2 cr)

This course prepares students with the knowledge and skills necessary to complete site layout, footings, and foundations for residential construction. Prerequisite(s): None.

CARP 1108 - Interior Finish I (4 cr)

This course provides an understanding of the materials used for interior finishing, plus hands-on experience in the application of these materials. Prerequisite(s): None

CARP 1110 - Introduction to Cabinets (3 cr)

This course covers basic kitchen design, cabinet planning, sizing, and construction joints necessary for fabrication of a quality cabinet. Students will learn how to fit and install laminate countertops. Students will also install upper, base, and vanity cabinets in the house project. Prerequisite(s): None.

CARP 1112 - Exterior Finish I (3 cr)

This course provides students with a basic knowledge of exterior finishes to building construction and installation. During the course, students will install various wall sidings, soffits, and fascia coverings. Prerequisite(s): None.

CARP 2204 - Concrete Technology (2 cr)

This course prepares students with the knowledge and skills necessary to complete concrete flat work, which may include basement floors, garage floors, driveways, and sidewalks for residential construction. Prerequisite(s): None.

CARP 2214 - Exterior Siding (2 cr)

This course provides students the opportunity to install common window and exterior door units, exterior trim, and exterior wall finish materials. Prerequisite(s): None.

CARP 2216 - Deck Construction (2 cr)

This course provides students with the opportunity to apply the knowledge and techniques necessary to select materials and construct decks, railings and stairs according to a predetermined plan. Prerequisite(s): None.

Early Childhood & Paraprofessional

CDEV 1105 - Development/Guidance (3 cr)

This course provides an overview of the development of children from conception through school age, with emphasis in the following areas: physical, cognitive, language, creative, and social emotional. It integrates theory with developmentally appropriate practice in home, center-based, and school settings. In addition, this course gives students an introduction to positive child guidance techniques for individual and group settings. The course will help students to understand behavior problems and identify strategies to prevent and resolve problem behaviors. Prerequisite(s): None.

CDEV 1107 - Intro to Early Education (3 cr)

The course will explore career opportunities with children and investigate a variety of child development programs for children ages birth through eight. It will examine job requirements, duties, regulations, and personal characteristics of successful workers. In addition, this course will guide the student in obtaining skills needed to maintain a safe and healthy child development setting. Prerequisite(s): None.

CDEV 2200 - Integrating Play (3 cr)

This course examines play during the infant, toddler, preschool and primary years. This course will examine theories of play, discover how play promotes development, examine the physical environment and its relation to play, and construct play materials appropriate to the play of children. Prerequisite(s): None.

CDEV 2229 - Imaginative Learning (3 cr)

This course provides an exploration of the home, center or school environment for children birth through school-age. It includes an examination of both indoor and outdoor space in relation to arrangement, maintenance, and evaluation. Students apply their knowledge of the environment's role in an actual work setting. DAP focus is on methods and materials in art, literature, music, math, science, physical,

social/multicultural studies. Prerequisite(s): CDEV1105, CDEV1107.

CDEV 2236 - Occupational Experience (1 cr)

This course provides an opportunity to apply knowledge and skill in an actual child development setting. Students will demonstrate competence in promoting health, safety, and nutrition; guiding children; arranging learning environments; and communicating with parents. Prerequisite(s): CDEV1105, CDEV1107.

CDEV 2238 - Special Needs (3 cr)

This course examines the development and provides direct hands-on experiences of children with special needs in an integrated child care/school setting. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective teaching methods. Prerequisite(s): CDEV1105.

CDEV 2240 - Observing & Assessing (2 cr)

This course provides students with the 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 children. Student will construct a child study based on assessments gathered throughout the course of the semester for one specific child. Prerequisite(s): CDEV2200, CDEV2229, CDEV2236.

CDEV 2242 - Infant/Toddler Programming (3 cr)

This course provides an overview of infant/toddler learning experiences, in either home or center-based settings. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective caregiving and teaching methods. Prerequisite(s): CDEV1105.

CDEV 2244 - Parent & Professional (3 cr)

This course covers the relationship between the caregiver and the child's family. It will explore strategies to maintain professional relationships with co-workers, parents, and outside organizations. Cultural diversity/dynamics, bias, public education, housing, employment, crime, health care, legal services, and social services will be explored. Prerequisite(s): None.

CDEV 2246 - Foundations of Literacy (3 cr)

This course is an overview of early language acquisition on how literacy is best developed and what activities child care providers can do to promote the foundation for literacy development. Prerequisite(s): None.

CDEV 2250 - Sign Language I (1 cr)

This course will provide an introduction to basic American Sign Language vocabulary, fingerspelling, numbers and Deaf Culture. Expressive and receptive dialogue exercises and activities are incorporated. Prerequisite(s): None.

CDEV 2251 - Sign Language II (1 cr)

This course will provide increased understanding of American Sign Language vocabulary, grammar and use of non-manual markers. Expressive and receptive dialogue exercises and fundamental aspects of Deaf Culture are incorporated. This course is a continuation of Level 1 with greater emphasis on expressive signing skills. Prerequisite(s): CDEV22.

CDEV 2252 - Paraprofessional Role (1 cr)

This course covers the basic services that a Paraprofessional will provide for children in a classroom setting. Areas covered are: professionalism, clerical duties, understanding of children with disabilities, formal and informal communications, classroom management and record keeping and identifying the needs of remedial students. Prerequisite(s): None.

CDEV 2290 - Internship (2 cr)

This course provides an opportunity to apply knowledge and skill in an actual child development setting. Students implement a variety of learning experiences that are developmentally appropriate for a specific group of children and culturally sensitive. Prerequisite(s): CDEV2240.

Chemistry

CHEM 1020 - Introduction to Chemistry (4 cr)

(Fulfills MNTC Area: 3) This course provides students 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. Prerequisite(s): MATH0094, or MATH0098, or appropriate Math assessment test score.

CHEM 1121 - General Chemistry I (5 cr)

(Fulfills MNTC Area: 3) General chemistry principles including the study of elements, stoichiometry, atomic theory, solids, liquids, gases, chemical bonding, molecular structure and reactions. The course consists of 4 lecture credits and 1 lab credit. Prerequisite(s): MATH0094 or MATH0098 or appropriate MATH assessment test score.

CHEM 1122 - General Chemistry II (5 cr)

(Fulfills MNTC Area: 3) This course covers the properties of aliphatic and aromatic compounds, including the major classes of biological compounds, and the theories, nomenclature, functional groups, synthesis, and mechanisms to account for their chemical properties. Prerequisite(s): CHEM1121.

CHEM 2205 - Survey of Gen/Organic/Bio Chem (4 cr)

(Fulfills MNTC Area: 3) This is a comprehensive survey course covering the basics of general chemistry to introduce organic chemistry and biochemistry needed for the advanced physiology course. Prerequisite(s): MATH0090 or Arithmetic assessment score greater than or equal to 50 and an Elementary Algebra assessment score greater than or equal to 60.

CHEM 2211 - Organic Chemistry I (5 cr)

(Fulfills MNTC Area: 3) This course is the study of properties of aliphatic (carbon) compounds and the theories, nomenclature, functional groups, synthesis and mechanisms to account for their chemical properties. Prerequisite(s): CHEM1122.

CHEM 2212 - Organic Chemistry II (5 cr)

(Fulfills MNTC Area: 3) This course is the study of properties of aliphatic and aromatic compounds, including the major classes of biological compounds, and the theories, nomenclature, functional groups, synthesis, and mechanisms to account for their chemical properties. Prerequisite(s): CHEM2211.

Manufacturing Applied Engineering

CMAE 1502 - Technical Mathematics (3 cr)

This is an introductory technical math course. This 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. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52; Minimum Accuplacer math score of 45.

CMAE 1506 - Introduction to Computers (2 cr)

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. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1510 - Print Reading (2 cr)

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. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1514 - Safety Awareness (2 cr)

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), Hazardous Material (HAZMAT), tool safety, and confined spaces. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1518 - Manuf Processes and Production (2 cr)

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. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1522 - Quality Practices (2 cr)

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. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1526 - Maintenance Awareness (2 cr)

This course aligns with the Manufacturing Skill Standards Council's (MSSC) assessment and certification system for Maintenance Awareness. The curriculum is based upon federally endorsed national standards for production workers. The course introduces the concepts of Total Productive Maintenance (TPM) and preventative maintenance with the fundamental principles of lubrication, electricity, hydraulics, pneumatics, and power transmission systems. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1528 – Career Success Skills (1 cr)

This is an introductory career success skills course. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills for a successful career. This course will identify the skills important to businesses and help the student assess his/her level of skill. The course will provide suggestions for how the student can improve his/her level of skill. Prerequisite(s): Minimum Accuplacer reading comprehension score of 52.

CMAE 1530 - Machining Math (2 cr)

Learn foundational math skills needed for a machine shop environment. Topics include sine, cosine, tangent and other shop trigonometry topics. This course utilizes Tooling "U", D2L and proctored unit exams. Prerequisite(s): CMAE 1502.

CMAE 1532 - Machine Tool Print Reading (2 cr)

Students learn how to read machining prints. They will develop an understanding of pictorial and orthographic projection drawings, become proficient in understanding dimensioning and print specifications, determine view location in third angle projection, decipher thread representation in both inch threads and metric threads, and cover other print topics such as circular features, inclined planes, surface texture and machining symbols. Prerequisite(s): Co-requisite: CMAE 1510.

CMAE 1534 - Machine Tool Tech Theory (2 cr)

Covers measurement, precision tools, band saw theory, lathe theory, drills and vertical milling machines. Prerequisite(s): None.

CMAE 1536 - Machine Tool Tech Lab 1 (2 cr)

Covers machine safety, machine component identification, turning, milling, sawing, bench work, drilling, grinding and the care and use of inspection and layout tools. Equipment utilized includes drill press, tool grinder, vertical milling machine, lathe and saws. On-site lab requirement. Prerequisite(s): Co-requisite: CMAE 1534.

CMAE 1538 - Machine Tool Tech Lab 2 (2 cr)

Covers advanced operations and concepts in machine safety, machine component identification, turning, milling, sawing, drilling, surface grinding and the care and use of high precision measuring equipment. Equipment utilized includes drill press, vertical milling machine, lathe, surface grinder and saws. On-site lab requirement. Prerequisite(s): CMAE 1536.

CMAE 1540 - Intro to CNC (3 cr)

Topics included are the History of CNC, the Cartesian coordinate system and CNC program structure using G and M codes. Coursework focuses on programming, setup procedures and machining processes for CNC milling and drilling operations. The course will utilize Immersive Engineering virtual software that will allow learners to set-up and verify programs online. Prerequisite(s): Co-requisite: CMAE 1536.

CMAE 1542 - Geo Dimensioning & Tolerancing (2 cr)

Geometric Dimensioning and Tolerancing is applied to prints. Geometric controls are examined to determine the allowable variation in form and size between part features. The Y14.5M standard is part of the overall instruction. Precision equipment is used to inspect the part to print specifications. Prerequisite(s): Co-requisite: CMAE 1532.

CMAE 1550 - DC Power (3 cr)

Covers the basic principles in Direct Current (DC) electric circuits including series, parallel and complex circuit analysis, Ohm's Law, meters, conductors, insulators, resistors, batteries and magnetism. The use and understanding of test equipment for circuit analysis is stressed. Lab component is a take-home lab kit. Co-requisite: CMAE 1502. Prerequisite(s): None.

CMAE 1552 - AC Power (3 cr)

Covers investigation of Alternating Current (AC) and its behavior in resistive, inductive and reactive series, parallel, and series/parallel circuits, use of test instrumentation and electromagnetic induction. Prerequisite: CMAE 1550. Prerequisite(s): CMAE 1550.

CMAE 1554 - Digital Electronics (3 cr)

Gain a foundational knowledge of digital electronics. Instruction includes Boolean algebra, digital devices, analog to digital conversion and digital to analog conversion. Knowledge and skills are applied through problem solving, simulation and practical projects. On-site lab requirement. Co-requisite: CMAE 1502. Prerequisite(s): None.

CMAE 1556 - Analog Circuits (3 cr)

Covers diodes, power supplies, transistor operation, biasing and specifications along with amplifier configuration and applications. It also covers amplifier operation, applications and related circuitry. Troubleshooting, design and circuit analysis are emphasized. On-site lab requirement. Prerequisite: CMAE 1552. Prerequisite(s): CMAE 1552.

CMAE 1558 - Motor Controls (3 cr)

Covers control components and basic control circuitry. It also includes designing, building and troubleshooting more complex circuits. Devices such as contractors, motor-starters, relays, timers, mechanical and proximity switches are used. In addition, electronic motor controls and programmable devices such as variable frequency drives are introduced in this course. On-site lab requirement. Prerequisite: CMAE 1552. Prerequisite(s): CMAE 1552.

CMAE 1560 - Interpreting Symbols (2 cr)

The welding profession requires a good working knowledge of the fundamental component of welding prints that make up structures in the welding industry. To accurately layout and fabricate parts, the welder will need basic knowledge of print lines, dimensions, notes and welding symbols. The students will breakdown welding prints to develop the skills necessary to fabricate individual component parts that will make-up welded structures. Written and Fundamental tests will be administered in accordance with the American Welding Society (AWS) and the appropriate correlating code books. None.

CMAE 1562 - Oxyfuel Welding (3 cr)

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. Cuts will be made in flat and horizontal positions. Written and fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. Prerequisite(s): None.

CMAE 1564 - Shielded Metal Arc Welding (3 cr)

Covers shielded metal arc welding (SMAW or MIG) and associated power sources, process applications, electrode selection, overview of weld types and other work-related safety conditions in the welding field. 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. Prerequisite(s): None.

CMAE 1566 - Gas Metal Arc Weld/Flux C (3 cr)

Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) will be covered. Modes of transfer, shielding gases, electrodes and materials that can be welded will be taught, including visual inspections of

welds. Lab time will be spent welding in the flat, horizontal, vertical and overhead positions. Written and fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. Prerequisite(s): CMAE 1564.

CMAE 1568 - Gas Tungsten Arc Welding (3 cr)

Covers the safety hazards and applications for Gas Tungsten Arc Welding (GTAW), power sources, setup, types of current, current selection, shielding gases and torch types. Various procedures will be discussed for welding different metals (Aluminum, Stainless Steel and Mild Steel) and potential problems that may be encountered. Applications for the process in different industries, and the use of back purging and its application will also be discussed. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and fundamental tests will be done in accordance with the American Welding Society (AWS) codes and standards. Prerequisite(s): CMAE 1564, CMAE 1566, CMAE 1570.

CMAE 1570 - Metallurgy (1 cr)

Covers the study of metals and the effects of welding and heat treatments. Terminology dealing with metallurgy is an important part of the course. Physical and mechanical properties of ferrous and nonferrous metals along with the classifications of the different types of metals is covered. Students will gain an understanding of the range of usefulness of the materials in the metal working community. Written tests are completed in accordance with the American Welding Society (AWS) codes and standards. Prerequisite(s): None.

Construction Electricity

CONE 1100 - Electrical Construction Safety (1 cr)

This course provides students with an understanding of occupational safety practices, basic requirements, purpose and enforcement of general safety rules. This course meets the requirements of the Minnesota Department of Labor and Industry standards for the Construction Electricity program. Prerequisite(s): None.

CONE 1102 – Intro to Electrical Circuit Theory (4 cr)

This introductory course provides students with 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 (NEC). Prerequisite(s): None.

CONE 1104 - Introduction to NEC (2 cr)

This course provides students with an introduction to electrical material used in industry and also the National Electrical Code. The student develops basic skills and understanding of the National Electrical Code (NEC) book and how it applies to electrical applications in the field. Prerequisite(s): None.

CONE 1107 – Introd to Residential Wiring (3 cr)

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 (NEC) standards. Prerequisite(s): Corequisites: CONE1100, HPER1410.

CONE 1108 - Electrical Circuit Theory (4 cr)

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 cr)

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): CONE1100, HPER1410.

CONE 1112 - Residential Wiring (3 cr)

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): CONE1107.

CONE 1116 - Conduit/Tool Applications (2 cr)

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): CONE1100.

CONE 1118 - Electrical Services (3 cr)

This course covers requirements and installation of service entrance equipment. Topics included are service materials, installation procedures, meters, service and conduit sizes, panel types, bonding, grounding and overcurrent protection. Prerequisite(s): Corequisites: CONE1100, CONE1104.

CONE 1120 - Electrical Blueprints (3 cr)

Student will read commercial blueprints with an emphasis on electrical circuitry including lighting, power, service, feeders, and special systems. The course also introduces the student to Computer Aided Drafting (CAD) drawings. Prerequisite(s): CONE1124.

CONE 1122 - Introduction to Materials (1 cr)

This course provides students with an introduction to electrical material used in industry. Students develop basic skills and understanding of the material and how it applies to electrical applications in the field. Prerequisite(s): None.

CONE 1124 – Intro to Elec Blueprint Reading (2 cr)

This course provides students with a working knowledge of residential blueprints and specifications. Students gain an understanding of blueprints, then interprets and applies this knowledge to the electrical industry. Prerequisite(s): None.

CONE 2114 - National Electrical Code (2 cr)

This course provides students with 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 2202 - Heating/Cooling Controls (3 cr)

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): CONE1107, CONE1116, or instructor approval.

CONE 2205 – Intro to Commercial Wiring (3 cr)

This course examines the material and design aspects of commercial wiring. Topics included are raceways, boxes, design requirements for conduit layouts, circuit overcurrent protection and lighting. Prerequisite(s): CONE1100, CONE1104, CONE1122.

CONE 2206 – Intro to Motor Control Apps (3 cr)

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, CONE1110.

CONE 2208 - Programmable Logic Controllers (2 cr)

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(s): CONE1112, or instructor approval.

CONE 2211 - Electronic Motor Control (3 cr)

This course provides application of basic theory and operation to electronic motor control including semi-conductor, rectifiers, regulators, and amplifiers. Prerequisite(s): CONE1100, CONE1108.

CONE 2212 - Commercial Wiring (3 cr)

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(s): CONE1100. Corequisite: CONE2205.

CONE 2214 - Industrial Wiring (2 cr)

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. It also covers the study

of the National Electrical Code relating to these topics. Prerequisite(s): CONE1100, CONE2114.

CONE 2216 - Motor Control Application (3 cr)

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.

CONE 2225 - Transformers (2 cr)

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 applied. Prerequisite(s): CONE1108.

CONE 2228 - Troubleshooting (1 cr)

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): 36 CONE credits.

CONE 2230 - Load Management Controls (2 cr)

This course provides an understanding of load management control for power company off-peak systems. Time clock, radio, ripple and demand controller wiring is covered. Prerequisite(s): CONE1107, CONE1108.

CONE 2238 - Low Voltage Wiring (2 cr)

This course provides students with an 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 2248 - Code Applications (2 cr)

This course applies the principles of the National Electrical Code (NEC) to job specific situations. Prerequisite(s): CONE1104, CONE2114.

CONE 2250 - Special Topics/Projects (2 cr)

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 students' career plans. This opportunity may be limited by conditions such as instructor/lab/material availability. Prerequisite(s): 12 CONE credits.

Computer & Network Technology

CPTR 1100 - Computer Basics (1 cr)

This course is an introduction to Windows, network, Internet, e-mail and word processing. Students will also be introduced to other practical computer applications. Prerequisite(s): None.

CPTR 1104 - Intro to Computer Technology (3 cr)

This course covers the operation of the personal computer including both hardware and software concepts. It includes an overview of a professional computer operating system, word processing, spreadsheets, presentation software, database management, e-mail usage, and Internet operations. Prerequisite(s): None.

CPTR 1106 - Microcomputer Databases (3 cr)

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(s): None.

CPTR 1110 - Visual Basic Programming (3 cr)

This course provides a basic understanding of Visual Basic Programming. It covers language basics and program structure. Topics include graphical interface design and development, control properties, event-driven procedures, scope, variables, functions and data base access. Students learn to program from stated problem or specifications, applying structural programming methods to produce results that are

accurate, reliable and maintainable. Prerequisite(s): None.

CPTR 1128 - Help Desk Concepts (3 cr)

This course covers all aspects of the Help Desk and the Help Desk industry. A solid foundation will be provided upon which students, who desire to enter the Help Desk industry, or strive to advance in the industry, can build their skills and knowledge. Prerequisite(s): None.

CPTR 1131 - Microcomputer Maintenance (4 cr)

This course covers the various software and hardware needed to support the installation and service of microcomputers. Software examples would be commands used to format disks, create sub-directories, copy disks, and editors to create batch files. The various hardware components that make up the microcomputer will be described. Normal operation conditions are discussed and demonstrated. With the help of software diagnostic tools, a microcomputer will be installed or diagnosed, repaired and retested for normal operation after the repair, before placing in service. Prerequisite(s): None.

CPTR 1136 - Networking I (4 cr)

This course will provide the student with an understanding of the 7-layer open systems interconnect (OSI) model and how the model relates to internet connectivity. Instruction includes basic network media such as wireless, fiber optic and copper and correct wiring techniques using industry standards. The importance of documentation and design criteria are included with an initial discussion on how networking protocols relate to network communication. Prerequisite(s): None.

CPTR 1138 - Information Systems (2 cr)

This course is an introduction to information systems used in a variety of organization types. Topics included an overview of the history of communications and information systems. Students are introduced to the many career opportunities available and the processes used in the development of information system using the system development life cycle. Prerequisite(s): None.

CPTR 1147 - Networking II (4 cr)

This course will continue to provide students with classroom and laboratory experience to empower them to enter the computer networking field. Instruction includes how to configure a router and switch for basic functionality. Students will be able to configure and troubleshoot routers and switches and resolve common issues with virtual local area networks (LANs), inter-virtual local area network (VLAN) routing, routing protocols and their topologies in both Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) networks. Prerequisite(s): CPTR1136.

CPTR 1148 - Microcomputer Operating Sys (3 cr)

This course covers the most current operating systems. Students will be managing hardware, configuring and managing I/O and disk drives, resource administration, configuring and managing security and optimizing system performance. Students will also be exposed to virtual computing environments. Prerequisite(s): None.

CPTR 1171 - Fundamentals of Network Security (3 cr)

This course will provide students with classroom and laboratory experience in basic security principles, establishing security baselines, and using current attack and defense techniques and technologies. Students will learn how to establish and manage security policies and procedures. Instruction includes how to harden a network to resist attacks, protect basic and advanced communications, and use cryptography and Public Key Infrastructure (PKI) to defend against attackers. Prerequisite(s): None.

CPTR 1500 – Introduction to Web Concepts (3 cr)

This course covers the basics of web site design and layout with emphasis on the Internet as an interactive communications medium. It includes hypertext markup language (HTML), terminology, and graphic formatting. Students will learn some of the most important topics including Web site design and layout, creating and revising a Web pages, using lists, hyperlinks, pictures, task lists, and other similar skills. Students are expected to have a basic knowledge of the use of a microcomputer. Prerequisite(s): None.

CPTR 2214 - Network Operating Systems (3 cr)

This course teaches functions of a network operating system so students can effectively maintain and manage a network. Students learn how to establish and oversee the operations of a network, create logins,

design and establish directory structures, and implement security. This course will have students install and operate a Windows network. Prerequisite(s): CPTR1138.

CPTR 2226 - Networking III (3 cr)

This course will continue to provide students with classroom and laboratory experience to empower them to enter the computer networking field. The focus of this course is on the architecture, components, and operations of routers and switches in a larger and more complex network. The student will learn how to configure routers and switches for advanced functionality. Instruction includes how to configure and troubleshoot routers and switches and resolve common issues with Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Spanning Tree Protocol (STP), and Virtual Trunking Protocol (VTP) in both IPv4 and IPv6 networks. The student will also develop the knowledge and skills needed to implement Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) operations in a network. Prerequisite(s): CPTR1147.

CPTR 2227 - Networking IV (3 cr)

This course will continue to provide students with classroom and laboratory experience to empower them to enter the computer networking field. The focus of this course is on the wide area networks (WAN) technologies and network services required by converged applications in a complex network. Instruction includes how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. In addition, students will prepare for the Cisco Certified Network Associate (CCNA) Exam. Prerequisite(s): CPTR2226.

CPTR 2231 - Unix/Linux (3 cr)

This course offers students an in-depth introduction into a popular operating system in today's business world. The overall goal of this course is to provide students with an understanding of Unix/Linux fundamentals. Prerequisite(s): None.

CPTR 2242 - Java Programming (3 cr)

In this course, students utilize the Java programming language to create both Internet applets and applications. Prerequisite(s): None.

CPTR 2252 - Micro Systems Project (3 cr)

Students utilize the content of previous data communication and microcomputer courses to design and implement a microcomputer/networking solution to a business need. Hardware and software projects may include designing, installing, upgrading, or expanding. Students may work on individual and/or group projects. Prerequisite(s): CPTR1147, CPTR2214.

CPTR 2294 - Internship (3 cr)

This course provides students with on-the-job experiences in microcomputer and/or networking support. A competency-based training plan will be developed for each student and the employer. Prerequisite(s): CPTR1131, CPTR1147, CPTR1138, CPTR1148.

Criminal Justice – Law Enforcement

CRJU 1102 - Law Enforce & Human Behavior (3 cr)

This course is an academic, in-depth examination of the knowledge, skills, and abilities required to fulfill duties, functions, and responsibilities related to conflict management, persons in crisis and critical events, victims of crime, and evolving social issues, such as gangs, drugs, and terrorism. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): None.

CRJU 1103 - Juvenile Justice (3 cr)

This course emphasizes the origin, development, organization, theoretical perspective, functions, and jurisdiction of the Juvenile Justice System in America, with emphasis on the MN Juvenile Justice System. Topic areas include: processes and detention of juveniles; constitutional protections extended to juveniles; case disposition, juvenile statutes and court procedures relative to juvenile offenders, laws and procedures regarding child abuse, child neglect, juvenile records and juvenile court process. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): None.

CRJU 1106 - Corrections/Probation (3 cr)

This course will examine the historical and contemporary correctional theories and programs with emphasis on the current organizational structure. Probation, parole, and alternatives to incarcerations will also be explored. Prerequisite(s): None.

CRJU 1107 - Law Enforcement & Community (3 cr)

This course provides a practical overview of key issues, questions, and concepts related to peace officer interactions with communities. Topic areas include ethics, leadership, discretion, diversity, community policing, problem-solving, and communication. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): None.

CRJU 1126 - L.E. Fitness I (1 cr)

This course is designed for students to develop physical fitness of the body for health, wellness, and social well-being. Exercise programs and techniques are taught to improve cardiovascular fitness, flexibility, and body composition. Students will be introduced to various methods of improving and/or maintaining cardiovascular fitness throughout this course. Prerequisite(s): None.

CRJU 2126 - L.E. Fitness II (1 cr)

This course is designed for students to enhance physical fitness of the body for health, wellness, and social well-being. Exercise programs and techniques are taught to improve cardiovascular fitness, flexibility, and body composition. Students will be introduced to various methods of improving and/or maintaining cardiovascular fitness to have the ability and confidence to cope with presented physical situations. Prerequisite(s): None.

CRJU 2200 - Minnesota Statutes (3 cr)

This is a course in substantive law, including the elements of major crimes and their possible legal defenses and is a Peace Officer Standards and Training requirement for the Law Enforcement degree. This course is intended for a student pursuing law enforcement who needs to know more about topics related to criminal and traffic codes in Minnesota within their role and responsibilities as a patrol officer. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): SOCI1107.

CRJU 2206 - Criminal Investigations (3 cr)

This course will cover the methodologies of criminal investigations. Every facet of the investigation will be covered, from the preliminary investigation to the court proceeding. It will also cover evidence recognition, collection, and preservation. There will be a segment devoted to police reports and required Minnesota forms. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): SOCI1107.

CRJU 2209 - Law Enforcement Skills I (6 cr)

This course is offered to students who have successfully completed the Criminal Justice courses which contain the Peace Officer Standards and Training objectives and are planning to take the state licensing exam. This course contains hands-on learning experiences in evidence collection, use of force, patrol procedure, firearms. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): Co-requisites: CRJU1126 or instructor approval.

CRJU 2210 - Criminal Procedures (3 cr)

This course examines the history of the United States Constitution and the role it plays in democracy and constitutional limitations on government authority over private citizens. Examination of the peace officer's role in the system as it relates to the procedural handling of a criminal case. Also examined in this course are rules of evidence, criminal defenses, civil liability, courtroom testimony and the government's authority to stop, detain, search, and seize. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): SOCI1107.

CRJU 2219 - Law Enforcement Skills II (6 cr)

This course is offered to students who have successfully completed the Criminal Justice courses which contain the Peace Officer Standards and Training objectives and are planning to take the state licensing exam. This course contains hands-on learning experiences in driving, defensive tactics, advanced patrol procedure, advanced firearms. Minnesota Peace Officer Standards

and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): CRJU2209.

CRJU 2295 - Internship (3 cr)

This is a practical learning experience in criminal justice in the area of the student's interest. This course is usually scheduled after the student has completed one full year of course work. Coordinator and agency approval is required. Students are not guaranteed an internship. Prerequisite(s): 24 credits completed and/or instructor approval.

Career Related Topics

CRLT 0100 – Service Learning (0 cr)

All students need to complete eight hours of service learning in the form of service to the community through volunteering, except the following:

- Students who have earned NCTC credits prior to fall 2017.
- Students who are active or have completed military service.
- Students who are eligible for reverse transfer.
- Students completing an online program.
- Students who are transferring a Service Learning course in from an accredited college or university.
- Transfer students who need less than 24 credits to earn their NCTC associate degree.
- Students who will graduate from an Associate level program while enrolled as a PSEO student.
- Students enrolled in employer sponsored programs.

If a student qualifies for one of these exemptions, the Substitute/Transfer Course Equivalency Waiver form must be completed and submitted to the Registrar. Prerequisite(s): None

CRLT 1103 - Career Explorations (1 cr)

This course is designed to promote the development of lifelong career exploration and decision making of the student using various assessments, and career planning strategies. The goal is to expand the exploration of personal interests, skills and work values to guide the student in identifying potential major/career possibilities and in making deliberate career choices throughout their lifetime. Prerequisite(s): None.

CRLT 2103 - Job Seeking and Keeping (1 cr)

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.

Commercial Vehicle Operations

CVOP 1100 - State/Federal Regulation (4 cr)

This course provides an understanding of state and federal motor vehicle traffic laws, highway traffic regulations, and driver's license laws needed to understand and demonstrate the ability to drive within the laws and regulations. Prerequisite(s): None.

CVOP 1105 - Safe Operation/Regulation (4 cr)

This course provides the techniques needed to drive defensively and prevent accidents in spite of the incorrect actions of others and adverse conditions. Prerequisite(s): None.

CVOP 1110 - Trip Planning (3 cr)

The course enables learners to plan, using a road atlas, the most effective and efficient routing between pickup and delivery points. The course also includes review of basic math and industry math applications. The areas covered are addition, subtraction, decimals, percentages, and math problems commonly found in the truck driving profession. Prerequisite(s): None.

CVOP 1115 - Commercial Op I (4 cr)

This course provides knowledge and operation of tractor trailer combinations on a rodeo course and driving range environment. Learners are trained in developing hand, eye, and foot coordination for shifting of all types of transmissions. Learners are also oriented on laws and driving rules pertaining to a commercial motor vehicle, which prepares them for the CDL skills and knowledge test for a Class A license. Prerequisite(s): None.

CVOP 1120 - Commercial Op II (3 cr)

This course is a continuation of CVOP 1115. Learners are familiarized with five axle commercial vehicles with a GVWR of 80,000# and lengths of over 65 feet (operating single and double trailers). The student learns to

operate all types of transmissions on the range and rodeo course and in real life city and highway traffic. During this course, the learner receives varying miles of road experience with empty and loaded trailers. Prerequisite(s): CVOP 1115.

Dietetic Technician

DIET 1005 - Life Cycle Nutrition (3 cr)

This course covers the normal nutritional needs of individuals through the life span, from gestation through geriatrics, specifically addressing pregnancy, lactation, infancy, childhood, adolescence, adult and later years. Social, economic, educational, and physiological factors and their effects on nutritional status will be discussed. Prerequisite(s): BIOL2131.

DIET 2000 - Community Nutrition (3 cr)

Students will learn of nutrition programs in the community, including programs to serve infants, children, and the elderly. Socio-cultural and ethnic food consumption issues will be reviewed. Educational methods for instruction of individuals and groups will be covered. Program planning and proposal writing will be included. Prerequisite(s): BIOL2131, DIET1005.

DIET 2005 - Food Production & Science (4 cr)

This course provides the fundamentals of food preparation, equipment use, culinary vocabulary, with laboratory activities that emphasizes theory applications and a look at factors that influence changes that occur in foods during preparation. Prerequisite(s): None.

DIET 2010 - Sanitation & Safety (2 cr)

This course covers the topic of ensuring food safety by understanding the major bacteria and viruses responsible for foodborne illness. Students will identify strategies to prevent foodborne illness and cross contamination by proper storage, handling, and preparing of food items, as well as proper sanitation of workspaces and equipment. Prerequisite(s): None.

DIET 2015 - Selection & Procurement (4 cr)

This course covers purchasing, receiving, storing, issuing, preparing, servicing, formulating specifications, judging food quality, selecting products to meet specific needs, and developing security measures as it relates to the appropriate workplace. Prerequisite(s): None. Co-requisite: DIET2005.

DIET 2020 - Nutritional Care (3 cr)

This course provides students with an understanding of the nutrition care process and the role of the dietetic technician within this process. Skills needed to complete parts of the nutrition care processes are developed. The profession of dietetics and the role of the professionals within the field are explored. Prerequisite(s): BIOL2131, BIOL2254, CHEM1020. Co-requisite: DIET2025.

DIET 2025 - Medical Nutrition (4 cr)

This course provides students with an understanding of the role of medical nutrition in the treatment of disease. The diseases discussed will include: diabetes, cardiovascular disease, gastrointestinal disease, cancer, kidney and renal disease. Prerequisite(s): BIOL2131, BIOL2254, CHEM1020. Co-requisite: DIET2020.

DIET 2030 - Food Service Management (4 cr)

This course will provide a comprehensive overview of food management within an institutional setting, including such principles as menu planning, food preparation, personnel management, sanitation and safety, food distribution, human resources, marketing, equipment use, and hands-on management of quantity food production. Prerequisite(s): MKTG2120, DIET2005, DIET2010, DIET2015.

DIET 2035 - Community Practicum (2 cr)

This course provides industry supervised experience in a variety of community health care and community nutrition settings where students have the opportunity to apply classroom theories to actual operations. Prerequisite(s): DIET2000.

DIET 2040 - Clinical Practicum (4 cr)

This course is designed to provide an opportunity for students to gain extensive supervised clinical patient care experience in a nursing home and hospital setting. The student needs experience in both a hospital and nursing home to complete the practicum. The student must complete 192 hours including both the hospital and the nursing home; 95 hours in each if possible. Prerequisite(s): DIET2020, DIET2025.

DIET 2045 - Management Practicum (4 cr)

This course is designed as an industry supervised, hands-on opportunity for the students to work and develop skills in a healthcare food service system. Competent practitioners in food service management recognize the importance of a foundation in quality and quantity food production, which is emphasized through a hands-on approach in this course Principles of food service management and sanitation are applied. Prerequisite(s): DIET2010, DIET2015, DIET2025, DIET2040.

Economics

ECON 1110 - Principles of Economics (3 cr)

(Fulfills MNTC Area: 5) This course is a basic study of economics with an emphasis on microeconomics and macroeconomic principles to help students understand economic problems related to scarcity and how economies allocate scarce resources. Prerequisite(s): None.

ECON 2201 - Microeconomics (3 cr)

(Fulfills MNTC Area: 5) This course is a study of price systems that direct the production and consumption of goods and services with a major emphasis placed on understanding the behavior of individual households, firms, and industries. **Prerequisite(s):** None.

ECON 2202 - Macroeconomics (3 cr)

(Fulfills MNTC Areas: 5, 8) This course is a study of National economies with an emphasis on such problems as the rate of unemployment, the changing level of prices, the nation's total output of goods and services and international monetary policies and exchange rate. Prerequisite(s): None.

Education

EDUC 2250 - Introduction to Education (3 cr)

This course is designed to explore the teaching profession in early childhood, elementary, middle, and secondary schools. Course topics include the history of education , philosophy of education, student diversity, social problems students face, effective instruction and classroom management, curriculum issues and influences, governmental roles in public education, and the professional and ethical responsibilities of teachers. This course also introduces students to nationally recognized standards for the preparation of teachers. Students will complete classroom field experience in each of the four grade level configurations (Pre-K 12) for a total of 40 hours. Students will discuss related literature and experiences, participate in peer teaching, role-playing, and simulation activities, and explore teacher responsibilities. Additionally, students will create artifacts for use in a professional portfolio. Background checks are required prior to participation in field experience. Prerequisite(s): ENGL1111.

Electronics

ELTR 2311 - Electronic Components I (3 cr)

This course will cover the fundamentals of alternating current/direct current (AC/DC) electricity progressing through a lecture sequence of passive resistive and reactive components in series, parallel, and series-parallel configurations. It will also address the basic circuits and mathematics required in digital electronics through exploration of basic logic gates and combination circuits, display circuits, memory circuits, and various interface circuits. Prerequisite(s): None.

ELTR 2313 - Electronic Components II (3 cr)

The following electronic principles will be reviewed: Diode Theory, Diode Circuits, Zener Diode and Regulator, Bipolar Transistors, Transistor Biasing, Voltage Amplifiers, Power Amplifiers, Emitter Followers, and JFETS & MOSFETS. This course will cover the use of industrial codes in the electronic designs of the world, to include such devices as: UJTs, SCRs, Diacs, and Triacs. It also reviews sensing devices and circuits. It will also address the fundamentals of radio frequency oscillators, amplitude modulation/demodulation, and AM/FM receiver circuitry. Prerequisite(s): ELTR2311.

ELTR 2315 - Applied Marketing (3 cr)

This course provides the student with the opportunity to integrate the knowledge and concepts learned in previous courses as applied to a specific occupational setting through the use of projects, reports and discussions with peers. It will introduce the student to the meaning of marketing and its importance to organizations, focus on relationship marketing, and introduce the student to the variables of an organizations marketing strategy. Prerequisite(s): ELTR2313.

ELTR 2317 - Microcontrollers (3 cr)

This course is designed to provide a student with the basic understanding of how a microcontroller operates. The course begins with the history of the microcontroller followed by studying microcontroller block diagrams. The programming language used by the microcontroller will be studied and used in the class. Interfacing of external sensors and industrial controls that were studied in previous courses will be incorporated into the final class project. The course will be capped off with an overview of popular microcontrollers and how to select a microcontroller and development tools. Prerequisite(s): ELTR2311.

ELTR 2319 - Electronic Assembly (2 cr)

This course covers the theory and techniques necessary for assembly of electronic cables, connectors, and equipment through proper utilization of standard/specialized tools and equipment. Different cable connector requirements are studied. Soldering and crimping of components and connectors is practiced. Fiber optic technology will be studied. Basic telephone wiring will be studied. Prerequisite(s): ELTR2311.

ELTR 2321 - Sensor Technology (3 cr)

This course is designed to provide the student a basic understanding of sensors and industrial controls. The sensors studied in this course are optical, pressure, temperature, proximity, data, and flow sensors. There will be research done on the web to find spec sheets for designated sensors. Prerequisite(s): None.

ELTR 2323 - Systems Integration (2 cr)

The course is designed to cover the theoretical and practical application of robotics. Beginning with some detailed analysis of a typical robotic system functional block diagram. Learn how robotics involve all of the major principles of electronics: sensors, data conversion, signal conditioning, closed loop controls, power circuits, actuators, digital communication, axis positioning, and intelligent microcontroller control. This course will tie the theory back into hands-on application with robotic training units. Understanding how robotic controls work, and how electronic functions are integrated to become a useful system will be covered. Prerequisite(s): ELTR2319, ELTR2321.

Emergency Medical Technician Basic

EMTB 1101 - Emergency Medical Technician (6 cr)

The Emergency Medical Technician (EMT) course follows the current National Standard Curriculum. This course will include all skills and classroom information necessary to provide emergency care at the Basic Life Support (BLS) level. Upon successful completion of the EMT course of instruction, students will be eligible to take the State/National Written and Practical Examinations. Completion and approval for clinical participation of the MN Department of Human Services Licensing Division Background Study. Current CPR certification. CPR for Health Care Providers (American Heart Association) prior to the end of the first week of EMTB1101. All required courses for the program must be completed with a grade of C or better. Completion of the college Health Screening & Immunization form. Prerequisite(s): AHA Healthcare Provider CPR Certification required within the first week of class.

Intensive Care Paramedic

EMTP 1130 - BLS Ambulance Clinical (1 cr)

This course introduces students to the BLS and ALS ambulance operations. Students observe the operations, procedures, and cares provided by prehospital personnel. Completion and approval for clinical participation of the MN Department of Human Services Licensing Division Background Study. All required courses for the program must be completed with a grade of C or better. Completion of the college Health Screening & Immunization form. Prerequisite(s): Current MN EMT-Basic license or certification. Co-requisite: EMTB1101.

EMTP 1150 Paramedic (4 cr)

At the completion of this course, the Paramedic student will fulfill the roles and responsibilities of a Paramedic within an EMS system, apply the basic concepts of development, pathophysiology and pharmacology to understand the assessment and management of emergency patients. Additionally, the paramedic student will be able to outline history taking and physical exam components, impression forming, and understand how integrate pathophysiological principles and assessment findings to formulate a field impression and describe the treatment plan for the trauma patient, patient with respiratory complaints and/or cardiovascular disease and complaints as well as explain how to safely manage the scene of an emergency.

Prerequisite(s): EMTB1101 and current MN EMT-B license, EMTP1130, Co-requisite: EMTP1155

EMTP 1155 Paramedic Skills I (4cr)

After completing this course, paramedic students will apply the basic concepts of development, pathophysiology, basic and advanced skills required to properly manage the trauma patient, respiratory patient and cardiac patients in the pre-hospital environment. These skills include, but are not limited to, respiratory assessment, management of respiratory emergencies, cardiac assessment, defibrillation, cardioversion, medication administration, cardiac rhythm interpretation, 12 lead monitoring and pharmacology interventions. The student will assess and manage emergency patients, properly administer medications, communicate effectively with patients, establish and/or maintain a patent airway, oxygenate, and ventilate a patient. Students will take a proper history and perform a comprehensive physical exam on any patient, integrate pathophysiological principles and assessment findings to formulate a field impression, and implement the treatment plan for the patient, communicate the findings to others, and safely manage the scene of an emergency. Prerequisite(s): EMTB1101 and current MN EMT-B license, EMTP1130, Co-requisite: EMTP1150

EMTP 1160 - Critical Care Clinical (2 cr)

(Course inactivated as of 31 August 2018) This course allows the student to apply skills and knowledge gained to this point in a clinical setting with actual patients. This course covers clinical areas to include (but may not be limited to) medical, cardiac, and surgical intensive care units, emergency department, and telemetry. Prerequisite(s): EMTP1150, EMTP1155.

EMTP 1170 - Support Services Clinical (1 cr)

(Course inactivated as of 31 August 2018) During this clinical course, students will be exposed to a number of different experiences and areas of patient care. These areas may vary slightly from year to year, but typically include respiratory care, IV therapy, anesthesia, and telemetry. Prerequisite(s): EMTP1150, EMTP1155.

EMTP 1180 - ALS Ambulance Clinical (4 cr)

(Course inactivated as of 31 August 2018) This course introduces students to an Advanced Life Support ambulance service. Students will demonstrate the operations, procedures and care provided by Paramedics in the field. Students will be involved with BLS and ALS patient care and treatment provided under the supervision of a staff Paramedic. Prerequisite(s): EMTP1150, EMTP1155.

EMTP 1190 - EMS Fire Clinical (1 cr)

(Course inactivated as of 31 August 2018) During this clinical course, students will be exposed to a number of different experiences and areas of patient care and fire suppression while riding with a paid, full time fire department. Prerequisite(s): EMTP1150, EMTP1155.

EMTP 1200 – Intro to EMS (1 cr)

Upon completion of this course the students will have an understanding of the history and Emergency Medical Systems (EMS), EMS operation, legal considerations, ethical/moral issues, documentation considerations and other topics. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1205 – EMS Trauma Care (1 cr)

Upon completion of this course the student will be able to assess, identify and manage traumatic injuries in the pre-hospital environment at an advanced level of care. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1210 – EMS Pharmacology (1 cr)

Upon completion of this course the student will be able to identify various medications utilized in the pre-hospital environment along with their indications, physiological effects, contraindications and side effects. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1215 – EMS Med Emergencies (3 cr)

Upon completion of this course the student will be able to assess, identify and manage various medical conditions to include pulmonary, neurologic, endocrine, immunology, infectious diseases, gastrointestinal toxicology, hematology, environmental and behavioral/psychiatric complaints in the pre-hospital environment at an advanced level of care. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106,

EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1220 – EMS Cardiac Care (1 cr)

Upon completion of this course the student will be able to assess, identify and manage emergency cardiac conditions in the pre-hospital environment at an advanced level of care. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1225 – EMS Special Populations (1 cr)

Upon completion of this course the student will be able to assess, identify and manage various medical conditions of patients in the geriatric, pediatric, obstetrics/gynecology (OB/GYN), and other special needs populations in the pre-hospital environment at an advanced level of care. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license, and EMTP1130 or equivalent work experience.

EMTP 1230 – EMS HazMat (1 cr)

This course covers hazardous materials operational level for Emergency Medical Services (EMS) personnel. Prerequisite(s): EMTB1101 or current EMT certification/higher license.

EMTP 1235 – Paramedic Skills (2 cr)

Upon completion of this course the student will be able to apply and utilize various advanced pre-hospital skills to include, but not limited to Intravenous (IV) therapy, med administration, endotracheal intubation (adult & pediatric), cricothyrotomy (adult & pediatric), intraosseous placement, chest decompression and cardiac monitor operation/electrical interventions. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license and EMTP1130 or equivalent work experience.

EMTP 1240 – Paramedic Assessment 1 (2 cr)

During this course the student will be involved in scenarios depicting various pre-hospital responses, assessing and managing various types of simulated patients at an advanced level of care in the pre-hospital environment. Prerequisite(s): BIOL2252, BIOL2254, HLTH1106, EMTB1101 or current MN EMT license and EMTP1130 or equivalent work experience.

EMTP 1300 – Paramedic Clinical (5 cr)

This course allows the student to apply skills and knowledge gained in a clinical setting with actual patients, working alongside of professional health care providers. This course covers clinical areas that may include (but may not be limited to) Operating Room, Cardiac Cath Lab, Respiratory Therapy, Emergency Department, Intensive Care Unit(s), Psychiatry, Labor & Delivery, Neonatal Intensive Care Unit, and Pediatrics. Prerequisite(s): EMTP1200, EMTP1205, EMTP1210, EMTP1215, EMTP1220, EMTP1225, EMTP1230, EMTP1235, EMTP1240.

EMTP 1305 – Paramedic Field Experience (3 cr)

This course introduces students to an Advanced Life Support (ALS) ambulance service. Students will demonstrate the operations, procedures and care provided by Paramedics in the field. Students will be involved with Basic Life Support (BLS) and ALS patient care and treatment provided under the supervision of a staff Paramedic. Prerequisite(s): EMTP1200, EMTP1205, EMTP1210, EMTP1215, EMTP1220, EMTP1225, EMTP1230, EMTP1235, EMTP1240.

EMTP 1400 – Paramedic Assessment 2 (3 cr)

During this course the student will be involved in scenarios depicting various pre-hospital responses, assessing and managing various types of simulated patients at an advanced level of care in the pre-hospital environment. Prerequisite(s): EMTP1130, EMTP1300, EMTP1305.

EMTP 1405 – ACLS/PALS/PHTLS (3 cr)

Upon successful completion of this course the student will be awarded certifications in American Heart Association (AHA) Advanced Cardiac Life Support (ACLS), AHA Pediatric Advanced Life Support (PALS) and National Association of Emergency Medical Technicians Advanced Pre-Hospital Trauma Life Support (PHTLS). Prerequisite(s): EMTP1300, EMTP1305.

EMTP 1410 – Paramedic Capstone (6 cr)

This course is the Capstone Event for the Paramedic program. It covers the application of advanced level skills and knowledge in the evaluation and care of the pre-hospital patient. The student will be involved in providing patient care as a team member and as a team

leader under the direct supervision of a staff. Prerequisite(s): EMTP1300, EMTP1305.

EMTP 1415 – FF/Paramedic Capstone (6 cr)

This course is the Capstone Event for the Firefighter/Paramedic program. It covers the application of advanced level skills and knowledge in the evaluation and care of the pre-hospital patient. Students will be involved in providing patient care as a team member and as a team leader. The students will also perform fire suppression, rescue and other daily duties required as a firefighter. The student will perform these tasks under the direct supervision of department staff. Prerequisite(s): EMTP1300, EMTP1305.

EMTP 2114 - EMS Technical Rescue (1 cr)

(Course inactivated as of 31 December 2018) This course focuses on technical rescue and patient packaging skills utilized by the Firefighter/Paramedic. This course covers the operational level objectives for Vehicle and Machinery Rescue and Confined Space Search and Rescue as set out in the National Fire Protection Association (NFPA) 1670 Operations and Training for Technical Search and Rescue. Students will demonstrate the ability to work in these types of incidents from the operational level perspective. Prerequisite(s): FIRE1130.

EMTP 2150 - Paramedic II (4 cr)

(Course inactivated as of 31 December 2018) At the completion of this course, paramedic students will integrate pathophysiological principles and assessment findings to formulate a field impression and discuss the treatment plan for the patient with various medical emergencies to include, but not limited to, neurological, endocrine, allergic, anaphylactic reaction, renal or urologic, toxic exposure with infectious and communicable diseases, behavioral, gynecological, and obstetrical. Prerequisite(s): EMTP1160, EMTP1170, EMTP1180, Co-requisite: EMTP2155.

EMTP 2155 - Paramedic Skills II (4 cr)

(Course inactivated as of 31 December 2018) This course covers the application of advanced life support (ALS) level skills and knowledge in the evaluation and care of a simulated pre-hospital patients. Prerequisite(s): EMTP1160, EMTP1170, EMTP1180, Co-requisite: EMTP2150.

EMTP 2212 - EMS Hazardous Materials (1 cr)

(Course inactivated as of 31 December 2018) This course covers hazardous materials operational level for EMS personnel. Prerequisite(s): Current EMT-Basic or higher certification.

EMTP 2230 - ACLS (1 cr)

(Course inactivated as of 31 May 2019) This course will result in the awarding of Advanced Cardiac Life Support certification from the American Heart Association. It covers all aspects of treating cardiac patients at the advanced level to include basic and advanced airway control, cardiac rhythm interpretation, medication administration, and post resuscitation management. Prerequisite(s): EMTP2150 or RESP2252 and/or instructor approval.

EMTP 2232 - PHTLS (1 cr)

(Course inactivated as of 31 May 2019) This course will award certification as a Prehospital Trauma Life Support Advanced Provider. It will cover the areas of kinematics, various injury pathologies and mechanisms, and trauma patient management priorities. Prerequisite(s): EMTP1150, EMTP1155, or current Paramedic certification, and instructor approval.

EMTP 2234 - Pediatric Advanced Life Support (1 cr)

(Course inactivated as of 31 May 2019) This course follows the course standards of the American Heart Association for Pediatric Advanced Life Support (PALS). The course leads to the awarding of certificates of successful completion. Prerequisite(s): EMTP2150 or RESP2252 and/or instructor approval.

EMTP 2240 - Emergency Room Clinical (3 cr)

(Course inactivated as of 31 May 2019) This course covers the operations of the Emergency Department of an acute care hospital. Students utilize all knowledge and skills learned to this point to provide patient care in this setting under the supervision of a RN and/or physician. Prerequisite(s): EMTP2150.

EMTP 2250 - Acute Care Clinical (3 cr)

(Course inactivated as of 31 May 2019) This course includes clinical rotation through labor and delivery, pediatrics, psychiatry, and possible other areas. Students utilize all knowledge and skills learned to this

point to provide patient care in this setting under the supervision of appropriate staff. Prerequisite(s): EMTP2150.

EMTP 2260 - Paramedic Internship (6 cr)

(Course inactivated as of 31 May 2019) This course is the Capstone Event for the Paramedic AAS degree. It covers the application of advanced level skills and knowledge in the evaluation and care of the prehospital patient. Students will be involved in providing patient care as a team member and as a team leader under the direct supervision of a staff paramedic. Prerequisite(s): EMTP2150, EMTP2155.

EMTP 2270 - Fire/Paramedic Internship (6 cr)

(Course inactivated as of 31 May 2019) This course is the Capstone Event for the Firefighter/Paramedic AAS degree. It covers the application of advanced level skills and knowledge in the evaluation and care of the prehospital patient. Students will be involved in providing patient care as a team member and as a team leader. The students will also perform fire suppression, rescue and other daily duties required as a firefighter. The student will perform these tasks under the direct supervision of a staff firefighter/paramedic. Prerequisite(s): EMTP2150, EMTP2155, FIRE1110, FIRE1130, FIRE1150.

English

ENGL 0085 - Intermediate Reading & Writing (3 cr)

This course is designed for students with Accuplacer Reading scores between 20-63. The course begins with a review of foundational reading and writing skills (vocabulary development, recognizing main ideas and supporting details, and writing grammatically correct sentences), followed by more advanced concepts. These include understanding and identifying tools authors use to organize information, learning to make reasonable inferences from assigned reading, and demonstrating paragraph-level writing skills in response to assigned reading and other topics. Students with a B average or better after three-fourths of the semester may consult with their instructor about retaking the Accuplacer Reading Test to see if they could skip one or more developmental reading and writing courses prior to ENGL1111 Composition I. Students who test into a higher course would need to successfully complete the current course in which they were enrolled. Students who complete this course with a C or better are eligible to enroll in ENGL0095 Advanced Reading & Writing. Prerequisite(s): None.

ENGL 0095 - Advanced Reading & Writing (3 cr)

This course is designed for students who have successfully completed ENGL0085 Intermediate Reading & Writing or students with Accuplacer Reading scores between 64-77. The course begins with a review of inferences, organizational tools used by authors, and techniques to develop effective paragraphs in response to assigned reading, followed by more advanced concepts. These include distinguishing fact from opinion, determining purpose and tone, evaluating arguments, and demonstrating essay-level skills in response to assigned reading and topics. Students who complete this course with a C or better will fulfill their developmental reading and writing requirements. Prerequisite(s): Completion of ENGL0085 Reading & Writing II with a C or better OR an Accuplacer Reading Test score between 64-77.

ENGL 1012 - Applied Communications (3 cr)

This course is designed to teach the basics of style and substance in oral and written communications. It will allow students to gain confidence in preparing, practicing, and evaluating written and oral work; provide insights into the thinking process in general, as well as insights into the thinking process which produces clear, creative, and logical speeches and composition; and understand the vital role communication has in the world of work. Prerequisite(s): ENGL0085, or satisfactory writing assessment test score.

ENGL 1111 - Composition I (3 cr)

(Fulfills MNTC Areas: 1, 2) The course is an introduction to college-level writing, focusing on descriptive, narrative, and expository essays. One essay will be a research paper using an appropriate documentation format. Prerequisite(s): ENGL0095 Reading & Writing III or a sufficient Accuplacer Reading Placement score to be exempted from developmental coursework in reading and writing.

ENGL 1112 - Composition II (3 cr)

(Fulfills MNTC Areas: 1, 2) This course offers continued emphasis on composition, with concentration on research methods and writing of the research paper,

using an appropriate documentation format. Prerequisite(s): ENGL1111.

ENGL 1126 - Introduction to Literature (3 cr)

(Fulfills MNTC Area: 6) This course includes the reading of literature, such as poetry, short stories and drama, and the writing of critical essays. Prerequisite(s): None.

ENGL 2203 - Creative Writing (3 cr)

(Fulfills MNTC Area: 6) This course includes directive practice in writing biography/auto- biography, children's stories, short stories, poetry, and drama. Prerequisite(s): ENGL0095.

ENGL 2207 - Technical Writing (3 cr)

(Fulfills MNTC Area: 2) This course covers forms, procedures, and techniques of collecting and presenting data for both formal and informal reports. Prerequisite(s): ENGL1111.

ENGL 2221 - Women's Literature (3 cr)

(Fulfills MNTC Areas: 2, 6) This course is designed to introduce the student to images of women in literature by reading and analyzing works from diverse era and cultures. Students will read from a variety of genres including stories, poetry, novels, and essays written by women with the goal of analyzing the portrayal of women as daughters, sisters, friends, wives, and mothers. Prerequisite(s): None.

ENGL 2231 - Literature & Film (3 cr)

(Fulfills MNTC Area: 6) Students will analyze and compare literature and film in order to understand the scope and variety of the human experience and the techniques used by authors and directors to capture that experience. The analysis and comparison will be done using standard bibliographic citation methods and critical analysis of the literary works and films. Genres that will be considered include westerns, comedy, action, quest, horror, feminist, classical, and science fiction. Prerequisite(s): None.

ENGL 2241 - American Literature Pre-1865 (3 cr)

(Fulfills MNTC Area: 6) This course is a survey of literature from the Colonial period to the middle of the 19th century. Prerequisite(s): None.

ENGL 2242 - American Literature Post-1865 (3 cr)

(Fulfills MNTC Area: 6) This course is a survey of literature from mid-19th century to the present. Prerequisite(s): None.

ENGL 2248 - Multicultural Literature (3 cr)

(Fulfills MNTC Areas: 6, 7) This course is a study of multicultural literature to gain an understanding and an awareness of the cultural diversity in the United States. It looks at the conflicts and motivations, successes and failures of those different ethnic origins, economic backgrounds and religious beliefs. Prerequisite(s): None.

ENGL 2251 - British Literature Pre-1785 (3 cr)

(Fulfills MNTC Area: 6) This course is a broad survey of English literature from the Old English period to the Restoration period in the 18th century. Prerequisite(s): None.

ENGL 2252 - British Literature Post-1785 (3 cr)

(Fulfills MNTC Area: 6) This course is a broad survey of English literature from the Romantic period to the present. Prerequisite(s): None.

ENGL 2258 - World Literature (3 cr)

(Fulfills MNTC Areas: 6, 8) This course includes the reading of literature, such as poetry, fiction, drama, and nonfiction from the rich literary tradition of Asia, India, the Arabic world, the Americas, Europe, and Africa. Prerequisite(s): None.

ENGL 2261 – Intro to Drama (3 cr)

(Fulfills MNTC Area: 06) This course includes reading plays from various periods and genres and analyzing their cultural contexts, genres, structures, characters, dialogue, themes, symbols and motifs, and staging.

ENGL 2262 – Intro to Film (3 cr)

(Fulfills MNTC Area: 06) This course includes reading and discussing the elements of film, as well as writing about it.

ENGL 2263 – Intro to Short Stories (3 cr)

(Fulfills MNTC Area: 06) This course includes reading and discussing the elements of fiction, as well as writing about it.

Engineering

ENGR 1100 – Introduction to Civil Engineering (3 cr)

This course is designed for students entering the civil engineering field. Topics covered are, goals and professionalism of a civil engineering technician, terminologies used in the industry, various types of equipment utilized and the duties required of a civil engineering technician. Prerequisite(s): None.

ENGR 1130 - CAD II (4 cr)

This computer-aided design (CAD) course is designed for students entering the civil engineering field. Background in Microsoft Windows is preferred but not required. Students will be introduced to civil design software and will apply concepts of site planning, topography, mapping and digital terrain models. Prerequisite(s): ARCH1121.

ENGR 1135 Engineering CAD II (4 cr)

This computer-aided design (CAD) course is designed for students entering the mechanical engineering technology field. Students will use solid modeling software to create parts, drawings and assemblies. Prerequisite(s): ENGR1125

ENGR 1140 - CAD III (4 cr)

This computer-aided design (CAD) course is designed for students with little or no background in computer aided drawing. Background in Microsoft Windows is preferred but not required. Students will be introduced to manufacturing industry specific software and be introduced to 3D Modeling features. Prerequisite(s): ARCH1121,

ENGR 1145 Adv Engineering CAD (4 cr)

This computer-aided design (CAD) course is designed for students with experience in solid modeling. Students will utilize manufacturing industry specific software and become proficient with creating models, assemblies, templates, drawings, and basic Geometric Design and Tolerancing (GD&T). Prerequisite(s): ENGR1135

Electronics Technology

ETAS 1101 - DC Power (3 cr)

This course covers the basic principals in direct current (DC) electric circuits including series, parallel and complex circuit analysis, Ohm's Law, meters, conductors, insulators, resistors, batteries, and magnetism. The use and understanding of test equipment for circuit analysis is stressed. Course equivalent Distance 360 Program CMAE1550. Prerequisite(s): None.

ETAS 1103 - AC Power (3 cr)

This course covers investigation of alternating current (AC) and its behavior in resistive, inductive and reactive series, parallel, and series/parallel circuits; use of test instrumentation; and electromagnetic induction. Course equivalent Distance 360 Program CMAE1552. Prerequisite(s): ETAS1101.

ETAS 1104 - Analog Circuits (3 cr)

This course covers diodes, power supplies, transistor operation, biasing, and specifications along with amplifier configuration and applications. It also covers operational amplifier operation, applications, and related circuitry. Troubleshooting, design, and circuit analysis are emphasized. Course equivalent Distance 360 Program CMAE 1556. Prerequisite(s): ETAS1101, ETAS1103.

ETAS 1105 - Applied Electronics (3 cr)

This course provides an overview of direct current, alternating current, digital logic, and semiconductor principles. Students will progress through lab modules which emphasize hands-on measurements and evaluation of electrical circuits. Prerequisite(s): None.

ETAS 1106 - Digital Electronics (3 cr)

This is a first course in Digital Electronics. The primary goals of this course are to help individuals acquire a fundamental knowledge of digital electronics, Boolean algebra, digital devices, analog to digital conversion and digital to analog conversion, and how to apply their knowledge and skills through problem solving, simulation and practical projects. Course equivalent Distance 360 Program CMAE 1554. Prerequisite(s): None.

ETAS 1110 - Electronics Design & Fabrication (3 cr)

This course covers the tools and techniques used to design electronic products. Through a series of hands-on projects students will design and fabricate circuit boards using low volume techniques. Electronic symbols and package sizes along with various electrical connectors will be studied. Students will be introduced to 3D mechanical design software to model 3D parts, create 3D assemblies and produce accurate mechanical drawings. Prerequisite(s): None.

ETAS 1510 - Measuring Tools (2 cr)

This course is composed of understanding basic elements utilized in a total quality environment in business and industry. Students will examine all aspects of basic measuring concepts and procedures used in industry. Prerequisite(s): None.

ETAS 1560 - Robotic Programming I (2 cr)

This course provides a general overview of the functions of robotic equipment. In addition to the history of robotics, students will investigate emerging applications for robotic technology. This class will sample various equipment and programming languages used in mobile and industrial robotics. Prerequisite(s): ETAS2220.

ETAS 2220 - Microcontrollers I (4 cr)

This course teaches students about microcontrollers by providing hands-on training. The block diagram, data and address busses, control lines and instruction set of microcontroller and associated systems will be studied. The theory needed to interface the microcontroller to external devices will also be studied. Students will program the microcontroller to do various input/output operations. This knowledge of the theory and hardware design of the micro-controller based system will be used in conjunction with programming to interface with external devices. Prerequisite(s): None.

ETAS 2221 - Sensor Technology (4 cr)

This course covers control devices such as uni-junction transistor (UJTs), silicon controlled rectifier (SCRs), Diacs and Tiacs. It also covers sensing devices and circuits such as photoelectric sensors, temperature control devices, proximity sensors, position sensors, and proportional and sequential control circuits. Emphasis is on data research and documentation, circuit design, and technical report writing. Prerequisite(s): ETAS1104.

ETAS 2224 - Programmable Logic Controllers (4 cr)

This course provides an introduction to programmable logic controllers (PLCs) with an emphasis on hardware and ladder logic programming. Students will utilize PLC wiring diagrams, input and output devices, timers, counters, and other ladder logic elements to create PLC controlled applications. Prerequisite(s): ETAS1105 or ETAS1106.

ETAS 2228 - New & Emerging Technology (3 cr)

This capstone course will allow students to investigate new and emerging technologies used in the electronics and automated systems industry. Students will design and build project(s) using these new technologies, as well as technology learned in earlier courses. Prerequisite(s): ETAS2220, ETAS2221, ETAS2224.

ETAS 2230 - Motor Controls (3 cr)

This course introduces the learner to motor control components and provides them with a basic knowledge of control circuitry. The learner will build on his/her experiences from Basic Electricity by designing, building, and troubleshooting more complex circuits. Devices such as contactors, motor-starters, relays, timers, mechanical, and proximity switches are used. Electronic motor controls and programmable devices such as variable frequency drives are introduced and in this course. Course equivalent Distance 360 Program CMAE1558. Prerequisite(s): ETAS1101 and ETAS1103; or ETAS1105.

ETAS 2232 - Microcontrollers II (4 cr)

This course provides experience interfacing various peripheral devices with microcontrollers as well as experience using C programming language. Students will progress through course topics by first examining example designs and programs. Provided with a detailed description of operation and a list of components, students will create functional microcontroller systems. This course emphasizes the use of product data sheets / manuals, circuit design, programming, debugging and troubleshooting. Prerequisite(s): ETAS2221.

ETAS 2580 - Hydraulics & Pneumatics (3 cr)

This course examines the components of pneumatics and hydraulic systems, including the practical use and theory of each type of system and the integration of components. The course will also study prints and the symbols used to document pneumatics and hydraulic systems. Prerequisite(s): None.

Fire Technology

FIRE 1100 - Introduction to Fire Service (1 cr)

This course is designed to introduce the student to the fire service. The student will see where the fire service has come from and where it is today. They will be introduced to may systems and services that the fire service is responsible for. Prerequisite(s): None.

FIRE 1102 - Firefighter Fitness (2 cr)

This course enhances the students' knowledge on fire service fitness, health, and wellness. In this course, students will gain knowledge of basic exercise science, nutrition, fitness assessment, exercise programming, instructional and spotting technique. Prerequisite(s): None.

FIRE 1104 - Job Skills (1 cr)

Students will be exposed to a number of different experiences and areas of fire suppression while riding with a paid, full time fire department. Prerequisite(s): FIRE1110.

FIRE 1110 - Firefighter Basic (6 cr)

This course covers the objectives of the Minnesota State Fire Certification Board for certification as a Firefighter I and II. The Minnesota State Fire Certification board objectives are based on the National Fire Protection Association's (NFPA) 1001 Standard on Fire Fighter Professional Qualifications. This will prepare students to function at or above the minimum level of training for entry into a fire protection career field. Prerequisite(s): FIRE1100.

FIRE 1112 - Fire Apparatus (3 cr)

This course covers the main types of firefighting apparatus, such as pumpers, aerial apparatus, rescue vehicles, and other support apparatus typically found in the fire service. It provides an overview of apparatus construction, especially fire pumps, apparatus operation, preventive maintenance, and water flow calculations. This course will also serve as an introduction to the duties and responsibilities of a fire apparatus operator. A large portion of this class will involve actual operation of fire apparatus. Prerequisite(s): FIRE1110.

FIRE 1124 - Fire Protection System (2 cr)

This course will teach the student how to review built-in fire protection system design. The student will learn about portable extinguishers, fixed special agent systems, water supply and sprinkler systems. The student will understand how to properly use a fire protection system in an emergency incident. Prerequisite(s): FIRE1110.

FIRE 1130 - Rescue Theory & Practices (1 cr)

This course covers the basics of emergency rescue situations that are common to all types of rescues. It will cover specific areas, such as site operations, resource and victim management, maintenance of tools, apparatus, hardware, and powering systems. Additionally, it will address the components of an Incident Management system, accountability of rescue personnel, and how to properly assess the emergency rescue scene. NFPA 1006 Standard for Technical Rescuer Professional Qualifications will be met up to the awareness level. Prerequisite(s): None.

FIRE 1150 - HazMat Operational (2 cr)

This course teaches the necessary skills to protect one's self, one's fellow responder, and the public from exposure in a hazardous materials incident. The course meets the requirements of the OSHA 1910.120 for the First Responder Operation level. Students will learn how to recognize and identify the presence of hazardous materials, the proper protective clothing to use, how to decontaminate properly, how to establish an Incident Command System, and the proper standard operating procedures to maintain safety at the incident scene. The course follows chapters 5 and 6 of NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Incidents. Prerequisite(s): FIRE1100.

FIRE 1152 - Building Construction (3 cr)

This course covers basic building construction techniques and types as they relate to firefighter safety, fire behavior, and building behaviors when subjected to

fire. This course will also cover structural collapses and safety concerns when responding to such an incident. The curriculum follows the standards set by National Fire Protection Association (NFPA) 1001 - Standard for Fire Fighter Professional Qualifications and NFPA 1021 - Standard for Fire Officer Professional Qualifications. Prerequisite(s): FIRE1100.

FIRE 1165 - Technical Rescue (2 cr)

This course covers most of the operational objectives for Rope Rescue, Confined Space Rescue, Water and Ice Rescue, Vehicle Rescue and Trench & Excavation Rescue as set out in National Fire Protection Agency 1670, Operations and Training for Technical Search and Rescue Incidents. Students will demonstrate the ability to work in these types of incidents from the operational perspective. This is a hands-on class, and will be limited in size in order to maintain a safe teaching and working environment. Prerequisite(s): FIRE1130.

FIRE 2206 - Inspection & Code Enforcement (3 cr)

This course covers information on how to perform basic, company, pre-plan, special and target hazard fire inspections. It will also cover the various codes and regulations that pertain to building inspections. This course involves fire and building code research and interpretation, and the interpretation of construction blueprints to ensure that construction is in compliance with all pertinent codes. Code enforcement procedures will also be covered. Students will also perform four separate 8 hour shifts of ride a longs with a career inspection and code enforcement professional. Prerequisite(s): FIRE1110.

FIRE 2208 - Firefighter Practical (3 cr)

This course covers the objectives based on the National Fire Protection Association's (NFPA) 1001 Standard on Fire Fighter Professional Qualifications and NFPA 1410 Standard on Training for Emergency Operations in a scenario based environment. This will prepare students to function at or above the minimum level of training for entry into a fire protection career field. The student will function as a member of a team to accomplish emergency scene goals and objectives. Prerequisite(s): FIRE1110, FIRE2240.

FIRE 2230 - Fire Investigation (2 cr)

This course covers basic fire cause determination techniques and covers Fire Investigator I from National Fire Protection Association (NFPA) 1033 (Standard for Professional Qualifications for Fire Investigator) and 921 (Guide for Fire and Explosion Investigators). The course provides information and techniques used in locating the area of fire origin, what caused the fire, and the basics of arson detection and prosecution. This course will also include information on common arsonist behavior, incendiary devices and ignition sources. Prerequisite(s): FIRE1110.

FIRE 2240 - Company Functions (3 cr)

This course covers the basic objectives of engine company work including the proper supply and use of water to fight fires, and emphasizes that the engine companies should be focused on three major tactical priorities on the fire ground: life safety, extinguishment, and property conservation. And the basic objectives of ladder company work including the assignments of conducting a primary search, rescuing victims, forcing entry, and conducting proper ventilation techniques. Prerequisite(s): FIRE1110.

FIRE 2250 - Fire Instructor Basic (2 cr)

This course teaches individuals entering into teaching or instructing situations the basic skills necessary to function effectively in a classroom or drill ground setting. The student will also have the opportunity to refresh basic firefighting skills as these will be used as the topics for instructing for the class. Prerequisite(s): FIRE1110.

FIRE 2256 - HazMat Technician (4 cr)

This course teaches the necessary skills to protect one's self, one's fellow responder and the public from exposure in a hazardous materials incident. The course meets the requirements of the OSHA 1910.120 for the level of Technician. Students will identify the presence of hazardous materials, the proper protective clothing to use, how to decontaminate properly, how to establish an Incident Command System, and the proper standard operating procedures to maintain safety at the incident scene. Students will also learn physical mitigation activities. The course follows chapter 7 of NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents. Prerequisite(s): FIRE1110, FIRE1150.

FIRE 2263 - Adv Vehicle/H2O Rescue (3 cr)

This course covers the Technician Level information for Vehicle and Machinery Rescue and Water and Ice Rescue as set out in National Fire Protection Association (NFPA) 1670, Operations and Training for Technical Search and Rescue and NFPA 1006 Standard for Technical Rescuer Professional Qualifications. At the completion of this training, students should be capable of hazard recognition, equipment use, and techniques necessary to operate and supervise a vehicle/machinery and water or ice rescue incident. This course will provide students the ability to work most vehicle extrication, and water or ice scenes with an excellent level of confidence. This will be a hands-on course and will be limited in size in order to maintain a safe teaching and working environment. Prerequisite(s): EMTB1101, FIRE1130, FIRE1165.

FIRE 2265 - Adv Trench/Struc Rescue (3 cr)

This course covers the Technician Level information for Structural Collapse and Trench Collapse Rescue as set out in the National Fire Protection Association (NFPA) 1670, Operations and Training for Technical Search and Rescue and NFPA 1006, Standard for Technical Rescuer Professional Qualifications. At the completion of this training, students will be capable of hazard recognition, equipment use, and techniques necessary to operate / supervise a structural collapse / trench rescue incident. This course provides students the ability to work on most of these incidents from a technician's perspective with confidence. This is a hands-on course and will be limited in size in order to maintain a safe teaching and working environment. Prerequisite(s): EMTB1101, FIRE1130, FIRE1165.

FIRE 2267 - Adv Confined Space/Rope Rescue (3 cr)

This course covers the Technician Level information for Confined Space and Rope Rescue as set out in National Fire Protection Association (NFPA) 1670, Operations and Training for Technical Search and Rescue and NFPA 1006, Standard for Technical Rescuer Professional Qualifications. At the completion of this training, students will be capable of hazard recognition, equipment use, and techniques necessary to operate at and supervise a confined space / rope rescue incident. This course provides students the ability to operate these types of incidents from a rescue technician's perspective with confidence. This is a hands-on course and will be limited in size in order to maintain a safe teaching and working environment. Prerequisite(s): EMTB1101, FIRE1130, FIRE1165.

Pathways to Success

FYEC 1110 - Pathways to Success (1 cr)

This course is designed to promote the personal and academic success of students. Based on active participation in the college community and critical thinking skills, students will engage in topics such as learning strategies, life management skills and personal development. Prerequisite(s): None.

Geography

GEOG 2241 - Physical Geography (3 cr)

(Fulfills MNTC Areas: 5, 10) This course emphasizes environmental elements of natural origin. Areas of concentration include soils, rocks, climates, the hydrosphere, plant and animal life, atmospheric conditions and their interrelatedness. Special attention will be devoted to natural and man-made disasters and their effects on natural life cycles. Prerequisite(s): None.

GEOG 2242 - Cultural Geography (3 cr)

(Fulfills MNTC Areas: 7, 8) This is a survey of the impact the human species is having on the physical environment and how geographic habitat shapes human life quality and survival.
Prerequisite(s): None.

Geospacial Intelligence Analysis

GINT 2300 - GEOINT Analysis (4 cr)

This is an intermediate-level course that builds upon the principles learned in imagery intelligence and remote sensing. The course focuses on the discipline of geospatial intelligence (GEOINT), data that comprise GEOINT, the process used to develop GEOINT products, and products derived from GEOINT. Students will learn to apply knowledge of multiple types of sensors and advanced sensor technology. Additionally, students will apply their knowledge of multiple types of geospatial data and multi-source intelligence to provide context to all activities involved in the planning, collection, processing, analysis, exploitation, and dissemination of GEOINT. Prerequisite(s): IMAG2100, IMAG2102, IMAG2301, IMAG2305.

GINT 2301 - GEOINT Collection Management (4 cr)

This course is an in-depth focus on imagery collection management, requirements, and the functional role of collection managers. Students will learn to develop collection plans and strategies based on requests for information from decision makers. Additionally, students will learn to identify collection requirements, develop and manage collection strategies, and create collection plans that effectively utilize collection assets and resources. Prerequisite(s): IMAG2100, IMAG2102, IMAG2301, IMAG2305.

GINT 2400 - Open Source Collection Mgmt (5 cr)

This course will teach students unique data mining strategies and techniques used to research online databases that return key intelligence while remaining within the law and privacy considerations. Students will learn to find, select, and acquire information from publicly available resources and analyze it to produce actionable intelligence. Prerequisite(s): GINT2300, GINT2301.

GINT 2402 - GEOINT Operations (5 cr)

This course is a capstone project that will give students hands on experience with end to end GEOINT operations. Students will be able to perform all the functions of a geospatial intelligence analyst using the tasking, processing, exploitation, and dissemination (TPED) Analysis Process (TAP). Prerequisite(s): GINT2300, GINT2301.

GINT 2403 - GIS Interoperability (3 cr)

This course is a study of Geographic Information Systems (GIS) that will give students exposure and hands on experience with a variety of Geospatial Information Technology (GIT) systems. Students will be able to identify different types of GIT systems and their interoperability. Students will analyze and apply GIT to industry applications. Prerequisite(s): None.

General Core

GTEC 1108 - Internet Literacy Skills (1 cr)

This course prepares students in basic information literacy skills. It includes practical techniques for Internet browsing and searching; how to find, evaluate, manage and use information from various information resources, including online databases and the World Wide Web. It also includes information about social networking services and their role in the creation and sharing of information. Prerequisite(s): CPTR1100, or instructor approval.

Heating Ventilation & Air Conditioning

HEAT 1101 - HVAC Circuit Theory (4 cr)

This introductory course provides students with the knowledge of electrical theory including atomic structure, Ohm's Law, and electrical circuits as used in heating and cooling installations and appliances. Prerequisite(s): None.

HEAT 1102 - Sheet Metal Design (3 cr)

This course covers sheet metal equipment, tools, materials, and layout procedures for the beginner to construct and install ductwork. Design fundamentals will be interpreted and installation procedures will be practiced in lab activities. Prerequisite(s): None.

HEAT 1104 - Control Electricity (2 cr)

This course provides the student with an understanding of electromagnetism, sign wave principles, and resistive, inductive, capacitive and resonant circuits as related to the National Electrical Code. Prerequisite(s): Corequisite: HEAT1101.

HEAT 1110 - Refrig, AC & Heating Principles (3 cr)

This course covers refrigeration theory of domestic refrigeration and introduction theory to commercial refrigeration and residential heating and air conditioning equipment, including controls and accessories. Prerequisite(s): None.

HEAT 1128 - Heating System Design & Instal (3 cr)

This course provides students with a technical understanding of heating system design and installation. Topics include heat loss calculations, heating systems selection and design, installation techniques, testing procedures, and operation of heating systems. Prerequisite(s): None.

HEAT 2202 - Air Handling (2 cr)

In this course the dynamics of handling fluid masses of air will be studied. The focus will be on moving and replacing air at given velocities, quantities, and temperatures. Prerequisite(s): HEAT1104.

HEAT 2206 - Heating System Maintenance (2 cr)

This course will demonstrate the correct guidelines within which a heating system is most efficient and longest lived. Students will also learn and practice the service techniques necessary to correct routine deficiencies in operation. Customer services and satisfaction will be covered, including maintenance contracts. Prerequisite(s): HEAT1104.

HEAT 2210 - Commercial Air Conditioning (2 cr)

This course covers the operating principles and service procedures for commercial air conditioning systems. Students will perform common maintenance procedures, system operational tests, and will service components and system controls. Prerequisite(s): REFR1110.

HEAT 2214 - Hydronic Heating Systems (4 cr)

This course covers the design, installation and maintenance of hot water heating in residential and light commercial applications. Special emphasis is on the basic concepts involved in delivering maximum comfort to the customer. Various heat sources, calculations, heat loading, and engineering goals are provided with specific examples. The relationship between heat and heat flow with water temperature and flow requirements are demonstrated with various mathematical examples. Prerequisite(s): HEAT1128 or PLBG1110.

HEAT 2220 - HVAC Troubleshooting (3 cr)

This course builds student confidence in troubleshooting heating, ventilating, air conditioning systems and motor control circuits. While in the course, students learn troubleshooting techniques using simulators and computer-generated simulators and actual air conditioning equipment. Prerequisite(s): HEAT1110.

History

HIST 1101 - Western Civilization Pre-1500 (4 cr)

(Fulfills MNTC Areas: 5, 8) This course is a survey from the beginnings of the earliest human civilizations starting with ancient Egypt and Mesopotamia. Topics include the rise and collapse of ancient Greece and Rome, the barbarian invasions, medieval civilization and the rise of Islam. The course will conclude with upheavals of the middle ages such as the Black Death, witch crazes and colonial exploration. Prerequisite(s): None.

HIST 1102 - Western Civilization Post-1500 (4 cr)

(Fulfills MNTC Areas: 5, 8) This course is a survey of the rapid spread of Western influence through colonialism, the scientific revolution, absolute power concentrations, revolutions and the rise of capitalism, socialism and communism. The rise of modern nationalism and fascism, world wars and genocide, our nuclear and environmental dilemma will also be covered. Prerequisite(s): None.

HIST 2201 - US History Pre-1865 (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is an introduction to the early exploration, by Europeans, of what is now the United States. Topics covered include the ways of life in the early colonial days, factors leading to independence, the Revolutionary War, drawing up the Constitution, the strange war the new Nation did not win, the Age of Jackson, and the U.S. Civil War with its tragic aftermath of failed reconstruction. Prerequisite(s): None.

HIST 2202 - US History Post-1865 (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is a survey of the post-Civil War United States from the Indian Wars and Wild West through the Progressive Era, The Roaring 20's, the Great Depression, two World Wars, the Cold War and its aftermath. Prerequisite(s): None.

HIST 2210 - Minnesota History (3 cr)

(Fulfills MNTC Area: 5) This course provides an analysis of Minnesota's past beginning with geologic factors that influenced our heritage, an overview of Native Americans, and developments to the present. Areas covered include the period of French exploration and the fur trade, English domination, Minnesota from territorial status on through modern statehood. Prerequisite(s): None.

HIST 2213 - Civil War/Reconstruction (3 cr)

(Fulfills MNTC Area: 5) The single greatest dividing point in the United States history was the Civil War. This conflict not only resulted in the deaths of over 600,000 people, but also eliminated a way of life, not only in the South but in the North as well. The immediate result of the Civil War was Reconstruction. Prerequisite(s): None.

HIST 2215 - American Indian Studies (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is a study of the history of the American Indian, especially the Plains Native Americans of the Upper Midwest from the pre-historic period to the end of the Indian Wars in 1890. The course will also include an introduction to legal issues, culture, and lifestyles as they relate to Native Americans. Prerequisite(s): None.

HIST 2231 - US Women's History (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is a survey of the history of women, across cultural boundaries, in the United States from the Colonial era to modern times. Students will analyze how race, class, age, and belief systems influence women's experiences and the way in which historical events often affect women and men differently. Constraints imposed on women will be examined in both the private and public realm. Economic and cultural barriers will be identified in the search to attain political, social, legal, economic, and sexual autonomy. Prerequisite(s): No.

HIST 2250 - American Minorities (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is an introduction to the roles and experiences of selected minority groups in the development of the American nation. Emphasis will be on the study of African Americans and Native Americans from early European contact to the present. Prerequisite(s): None.

HIST 2299 - Travel/Field Experience (3 cr)

This course allows students to enhance their knowledge of a specific academic subject by traveling to a location and learning firsthand about the cultural, geographical, historical, or other characteristics of that area. Before departure on the trip, students will be required to attend one or more orientation sessions. Prerequisite(s): None.

Health Education

HLTH 1101 – Intro to Health Professions (3 cr)

This course provides the opportunity to explore allied health professions and will prepare the students with the necessary knowledge and skills to make an informed decision in choosing a health field program of study. The students will learn about the requirements, roles and responsibilities of various occupations in the health field through faculty presentations, resource exploration and interviews. Students will explore the various ethical, legal and financial factors influencing the healthcare system and the settings where health professionals are employed. Students will be encouraged to further their knowledge in a particular health career through participation in a shadowing experience or interview of a health professional. Prerequisite(s): None.

HLTH 1105 – Intro to Cardiovascular Tech (3 cr)

This course is designed to introduce students to Cardiovascular Technology as a profession. The course covers credentialing process, national standards, team roles, safety and basic cardiovascular assessment. The course will also include exercise stress testing and cardiac rehabilitation as well as observation of the cardiac catheterization laboratory. Prerequisite(s): None.

HLTH 1106 - Medical Terminology (2 cr)

This course covers prefixes, suffixes, and word roots used to compose medical terms. Students learn to spell, pronounce, define, analyze, and formulate terminology related to body structure, disease, diagnosis, and treatment. Medical abbreviations are also covered. Prerequisite(s): None.

HLTH 1108 - Cultural Diversity (1 cr)

This course examines the significance that culture has upon health beliefs and practices in our society. It emphasizes the "cultural sensitivity" component of the health care delivery system. Prerequisite(s): None.

HLTH 1110 - Nursing Assistant (3 cr)

This course introduces concepts of basic human needs in simple terms. Students learn to assist residents in activities of daily living. Selected common technical nursing skills are introduced. Principles of body mechanics are emphasized. This course is intended to prepare for practice at the Nursing Assistant level. Prerequisite(s): None.

HLTH 1114 – Intro to Electrocardiography (2 cr)

This course includes basic cardiac structure and development of the conduction system. Identification of the following patterns will be covered: sinus, atrial, junctional, ventricular, atrioventricular blocks, pacemaker and changes seen with electrolyte imbalance. An introduction to the 12 lead interpretation

will be given. Content covered will include acute myocardial infarction recognition and localization, bundle branch blocks, atrial and ventricular hypertrophies, pericarditis and various changes seen with disease processes. Prerequisite(s): BIOL2252, BIOL2254, HLTH2002.

HLTH 1120 - Office Radiography (2 cr)

This course teaches care providers the art and science of radiography. Emphasis is on x-ray production, basic radiation biology, radiation safety, film handling and processing and quality control. Prerequisite(s): None.

HLTH 1126 - Therapeutic Communication (2 cr)

This course introduces students to strategies necessary to encourage therapeutic / helping relationships between health professionals and patients. Verbal and nonverbal communication techniques, therapeutic communication methods and common communication barriers will be explored. Specific communication strategies for various age groups and patient populations will be included. Prerequisite(s): None.

HLTH 1140 - Electronic Health Records (3 cr)

This course covers the history, benefits, standards, functionality, security, and confidentiality as well as the impact of Electronic Health Records (EHR) in the healthcare environment. Students will have hands-on experience using EHR software to complete common work tasks in the health care setting. Prerequisite(s): None.

HLTH 2002 - Pharmacology (2 cr)

This course introduces students to basic pharmacological concepts, drug legislation, and drug categories. Emphasis is on commonly used drugs and their effects on body systems. Drug reference utilization is included. Prerequisite(s): Suggested: BIOL2252 or BIOL1004.

HLTH 2208 - Pathophysiology (3 cr)

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): A grade of C or better in either BIOL1004 or BIOL2252 and BIOL2254, ENGL0095.

Health, Physical Education & Recreation

HPER 1101 - Bowling (1 cr)

This course is available for those students who are interested in learning the life-long fundamental skills of bowling. Emphasis will be placed on proper footwork approach, delivery, scoring, history, and rules. Prerequisite(s): None.

HPER 1103 - Racquet Sports (1 cr)

This is an introduction to tennis, racquetball, badminton, stressing the fundamental skills needed to play each of these lifetime activities. Emphasis will be placed on scoring, basic rules, skills, strategy, and etiquette. Prerequisite(s): None.

HPER 1108 - Martial Arts (1 cr)

Jujutsu is the traditional Japanese unarmed self-defense system of the Samurai warriors. This course teaches students the basic techniques of Jujutsu as well as the history and traditions associated with the art. Students will have the opportunity to attain Asian-accredited ranks in this course. This class is rigorous and physically demanding. Prerequisite(s): None.

HPER 1110 - Concepts of Physical Fitness (3 cr)

This course introduces students to all of the components of physical fitness. Students will learn the benefits, methods and aspects of exercise. Students will also be introduced to methods and guidelines of fitness testing and programming. Other topics will include issues such as weight control, nutrition, and exercise of various special populations. Prerequisite(s): None.

HPER 1116 - Camp/Outdoor Activities (2 cr)

This course explores camping trends, ethics, equipment, conservation, trip planning, orienteering, hiking, mountain biking, outdoor open fire cooking methods and safety. An overnight trip is required. Prerequisite(s): None.

HPER 1122 - Yoga (1 cr)

Yoga is a practice that has physical and emotional benefits. Students in this course will learn and perform various Yoga and relaxation/breathing techniques and a method to improve posture, flexibility, balance and relieve stress. Prerequisite(s): None.

HPER 1123 - Fitness Walking (1 cr)

This course emphasizes the basic skills of walking indoor and outdoor, as well as the techniques used to develop fitness. The class combines advanced human movements and conditioning techniques with an emphasis on safety and cardiovascular conditioning through walking. Prerequisite(s): None.

HPER 1126 - Fitness & Conditioning I (1 cr)

This course is designed for students to develop physical fitness of the body for health, wellness, and social well-being. Exercise programs and techniques are taught to improve cardiovascular fitness, flexibility, and body composition. Students will be introduced to various methods of improving and/or maintaining cardiovascular fitness throughout this course. Prerequisite(s): None.

HPER 1127 - Strength Conditioning (1 cr)

Students participate in strength training activities and learn to develop strength training programs to improve muscle strength and/or muscle endurance. Students are taught proper use of various strength training equipment with emphasis placed on technique. Prerequisite(s): None.

HPER 1140 - Personal & Community Health (3 cr)

This course updates students on the problems that face everyone in the area of Personal and Community Health. Possible topics covered include: mental health, drugs, fitness, nutrition, sexuality, consumer education, environmental health, and death education. Prerequisite(s): None.

HPER 1143 - Self Defense for Women (1 cr)

This course teaches women the mental and emotional, physical skills necessary for personal protection. Students will also work to develop an increased awareness of how the issues surrounding personal protection impact their daily lives. Prerequisite(s): None.

HPER 1150 - Intro to Sports Medicine (2 cr)

This course provides introductory information in the multidisciplinary field of sports medicine. Discussion will include avenues of involvement, moral and ethical issues, and the inter-relationship of the human components of sports. A foundation for taping, bracing, conditioning and rehabilitation will be covered. Medical referral, sports medicine budgeting and proper documentation skills will be taught. Hands-on work and actual observation will be conducted as a classroom experience. Prerequisite(s): None.

HPER 1181 - Varsity Football (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Course may be repeated for credit. Prerequisite(s): None.

HPER 1182 - Varsity Volleyball (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Course may be repeated for credit. Prerequisite(s): None.

HPER 1183 - Varsity Basketball (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Course may be repeated for credit. Prerequisite(s): None.

HPER 1184 - Varsity Baseball (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook.

Course may be repeated for credit. Prerequisite(s): None.

HPER 1185 - Varsity Softball (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Course may be repeated for credit. Prerequisite(s): None.

HPER 1186 - Varsity Golf (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Course may be repeated for credit. Prerequisite(s): None.

HPER 1187 - Varsity Wrestling (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and attend all practices and games as well as participate in activities which include individual, small, and large group work. Eligible based on NJCAA Rules, MCCC Regulations, and Pioneer Athletic Student Handbook. Prerequisite(s): None.

HPER 1188 - Clay Target (1 cr)

This course concentrates on the techniques and skills needed to shoot clay targets. Proper handling of the firearm, proper shooting procedure, and scoring will be taught in this class through participation in practices and competition events. Each student is expected to participate and attend all practices and competitions as well as participate in activities which include individual, small, and large group work. Eligibility will be based on Minnesota College Athletic Conference (MCAC) regulations and the Pioneer Athletic Student Handbook. Course may be repeated for credit. The course is required to participate on the Trap Shooting Team. There is a service charge to participation. Prerequisite(s): None.

HPER 1410 - First Aid/CPR (1 cr)

This course teaches American Heart Association First Aid course content and American Heart Association Basic Life Support Provider level. Prerequisite(s): None.

HPER 2126 - Fitness & Conditioning II (1 cr)

This course is designed for students to enhance physical fitness of the body for health, wellness, and social well-being. Exercise programs and techniques are taught to improve cardiovascular fitness, flexibility, and body composition. Students will be introduced to various methods of improving and/or maintaining cardiovascular fitness to have the ability and confidence to cope with presented physical situations. Prerequisite(s): None.

HPER 2181 - Varsity Football II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1181.

HPER 2182 - Varsity Volleyball II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1182.

HPER 2183 - Varsity Basketball II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1183.

HPER 2184 - Varsity Baseball II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and

demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1184.

HPER 2185 - Varsity Softball II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1185.

HPER 2187 - Varsity Wrestling II (1 cr)

This course is available to members of the varsity team and non-varsity members with the instructor's permission. Each student is expected to participate and demonstrate leadership in all practices and games as well as activities which include individual, small, and large group work. Prerequisite(s): HPER1187.

HPER 2201 - Psychology of Sports (2 cr)

This course is an introduction to the psychological aspects of sport and exercise. Emphasis is on the theoretical, conceptual and applied aspects of human sport and exercise performance. Students will investigate the integration of the psychosocial, cognitive and biological components of performance. Prerequisite(s): None.

HPER 2210 - Introduction to Kinesiology (2 cr)

This course introduces students to the study of anatomy in relation to human movement. Students will identify major bones, their landmarks, major muscle origins, insertions and actions. Prerequisite(s): None.

HPER 2211 - Intermediate Kinesiology (2 cr)

This course introduces students to the study of anatomy in relation to human movement. Students will identify minor muscles, their actions, origins and insertions, and associated bony landmarks. This course is primarily intended to fulfill academic requirements for students pursuing North Dakota Massage Licensure. Prerequisite(s): HPER 2210.

HPER 2235 - Coaching Young Athletes (3 cr)

The course focuses on specific topics concerning the coach and athlete, in the areas of administration, philosophy, psychology, sociology and sports physiology. It helps to develop a coaching philosophy and basic understanding of athletic administration and organization. Prerequisite(s): None.

HPER 2240 - Drugs & Alcohol (3 cr)

This course provides factual information concerning drug use, misuse and abuse. It will discuss the role of drugs in our society today. The course will look at the Nation's drug problem ranging from over the counter products to prescription drugs and to the illegal drugs trafficked in America. Prerequisite(s): None.

HPER 2244 - First Responder (3 cr)

This course is intended for persons who are responsible for giving emergency care to the sick and injured. This course fulfills the first aid requirements as required by the Minnesota Peace Officer Standards and Training Board. This course provides two certificates: American Heart Healthcare Provider (valid for two years) and Minnesota Emergency Medical Services Regulatory Board First Responder certification. Prerequisite(s): None.

HPER 2245 - Introduction to Physical Education (3 cr)

This course gives students a working knowledge in the field of Physical Education. Topics covered include physical development of children from Kindergarten through senior year, fundamental skills, philosophy. This course is available for those students who are interested in learning the life-long fundamental skills of bowling. Emphasis will be placed on proper footwork approach, delivery, scoring, history, and rules**.** Prerequisite(s): None.

HPER 2250 – Prev and Care of Athletic Injuries (3 cr)

This course provides information on the prevention and treatment of athletic injuries. Topics covered include principles of athletic conditioning, theory and practice of taping and bracing, and rehabilitation techniques, emergency situations, injury assessment and recognition and management of specific athletic injuries. Classroom situations allow students hands-on experience. Prerequisite(s): None. BIOL2252 recommended.

HPER 2270 - Health and Wellness (3 cr)

This course gives students an insight into the why, what, and how we can develop a healthy lifestyle. Students will develop a personal plan of action that includes nutrition, physical fitness, stress management, emotional, and spiritual well-being. Prerequisite(s): None.

HPER 2281 - Officiating Sports (2 cr)

This course is intended for those students who plan to become officials and/or coaches. It is also intended for those presently in the field who would like to be updated on the rules and techniques of officiating and learn these skills prior to becoming a coach. Prerequisite(s): None.

Humanities

HUMN 1101 - Introduction to Humanities (3 cr)

(Fulfills MNTC Areas: 2, 6) This course serves as a general introduction to the role that humanities play in shaping humanity's conception of itself and society. This course serves to expand students' 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.

Imagery Analysis

IMAG 1100 - Imagery Intelligence (3 cr)

This course will teach students the political, privacy, law, and safety issues for drones, and the impact of small commercial satellite companies on the world. Students will learn classification levels and historical role of imagery from government/military applications to today’s civil applications. Prerequisite(s): None.

IMAG 1101 - Remote Sensing (3 cr)

This course offers students an in-depth look at sensors and platforms used to collect over imagery. Students will learn electromagnetic radiation principles and the history of imagery collection. In this course, radar, lidar, panchromatic, multispectral, hyperspectral, and infrared remote sensing principles for imagery analysis will be introduced. Prerequisite(s): None.

IMAG 1103 - Imagery Software/Mapping (4 cr)

This course will teach imaging software utilization in order to analyze and compare aerial images, maps, charts, and other geospatial data. Students will learn to use imagery interpretation techniques required to create specific workflows, coordinate multiple data sources, and integrate full spectrum geospatial tools. Additionally, students will interpret precise locations through the basic fundamentals of geodetic datum systems. They will learn imagery software exploitation skills and present findings in a professional, comprehensible report. Prerequisite(s): None.

IMAG 2100 - Writing/Presentation (4 cr)

This course teaches students how to write analytical intelligence reports and deliver comprehensive presentations. Students will learn intelligence research methods and source citing. Students will develop methods to communicate effectively such as analyzing audiences and different types of presentations. Prerequisite(s): IMAG1100, IMAG1101, IMAG1103, NSCI1103.

IMAG 2102 - Practical IA (5 cr)

This course will reinforce imagery interpretation principles along with the capabilities and limitations of imagery exploitation systems. Students will learn to identify various infrastructure characteristics along with associated features and equipment. Additionally, students will become familiar with imaging platforms, exploitation systems, and processes. Students will develop an understanding of imagery analysis as it relates to geospatial applications. Prerequisite(s): IMAG1100, IMAG1101, IMAG1103, NSCI1103.

IMAG 2305 - Practical Imagery Applications (4 cr)

This course offers students an in depth look at the applications of imagery and the opportunity to conduct imagery analysis in any operational environment. Students will receive hands-on operational experience through scenario simulation training including acquisition, analysis, product creation, communication, and dissemination of imagery information. Additionally, students will learn the roles and responsibilities of individuals utilizing Geospatial Information Technology and apply this knowledge to form potential solutions for decision makers. Prerequisite(s): IMAG1100, IMAG1101, IMAG1103, NSCI1103.

Journalism

JOUR 1101 - Mass Communications (3 cr)

(Fulfills MNTC Area: 9) This course is an introduction to the ways news is gathered, written, and disseminated. Also emphasized are the history, nature, and functions of traditional news media such as newspapers, the broadcast media, and the internet, as well as communications agencies. Prerequisite(s): None.

JOUR 1102 – Introduction to Journalism (3 cr)

This course is an introduction to journalistic writing formats used for the basic news story in newspapers. Also discussed will be news elements and values, news gathering methods, interviewing techniques, and an introduction to feature and human interest journalism formats. Basic layout and design as well as headline writing will be included. Prerequisite(s): ENGL1111, or permission of instructor.

JOUR 1181 - College Publications (1 cr)

This seminar-type course is offered to students who have ability or potential ability to write for newspapers or other news media. It offers guidance in gathering news, writing, make-up, layout, headlines, advertising and photography used in publishing the College's campus newspaper. Also, computer software used for desktop publishing is taught in this course. May be repeated for credit. Prerequisite(s): Instructor Permission.

Manufacturing Process Technology

MAPT 1101 - Manufacturing Computer Apps (2 cr)

This course covers various computer applications used to support manufacturing activities including maintenance, scheduling, project management, bill of materials generation, and data analysis. Spreadsheet and database management applications will be used for data analysis and the creation of graphs and charts. Students will use computer applications for project management to create Gantt charts, schedule resources and plan preventative maintenance tasks. Prerequisite(s): None.

MAPT 1110 - Mechanical Systems I (3 cr)

This class introduces simple machines and mechanical advantage including levers, inclined planes, wheels, axles and pulleys. Concepts will be demonstrated by analyzing various machines in a series of laboratory experiments. Safe rigging and moving of heavy equipment will be covered.
Prerequisite(s): None.

MAPT 2110 - Mechanical Systems II (3 cr)

This course focuses on the industrial application of mechanical principles including bearings, screws, gears, pulleys, and levers. In the lab students will perform maintenance and repair tasks while analyzing equipment for factors such as speed, force, and torque relationships. Electric motor and drive systems will be emphasized. Additional topics include coupling, alignment, lubrication, and preventative maintenance. Prerequisite(s): MAPT1110.

MAPT 2200 - Fabrication Techniques (4 cr)

This hands-on course teaches students the safe operation of common fabrication and maintenance equipment. This course provides an introduction to the drill press, table saw, sheet metal shear, brake, metal lathe, vertical mill, band saw, grinders, wire feed welders, and numerous hand tools. Students will reference mechanical drawings, practice basic measurement and layout techniques, fabricate materials, and use measurement tools to determine if the items meet the desired specifications. Prerequisite(s): None.

MAPT 2400 - Quality & Lean Manufacturing (4 cr)

This course is an overview of total quality systems and statistical process control. Total quality is a means for manufacturing to improve quality, productivity, and maintain a competitive position. Students will utilize flowcharts, diagrams, Pareto analysis, and other means of analyzing and evaluating data. This course also defines lean manufacturing principles, concepts, and techniques. Additional topics include 5S's (Sort, Set in order, Shine, Standardize, and Sustain), waste elimination, metrics, mistake proofing, and other value added themes. Prerequisite(s): None.

MAPT 2585 - Adv Hydraulic & Pneumatic (3 cr)

This course examines electronic control of hydraulic and pneumatic systems. Students will troubleshoot solenoid operated directional control valves, proportional control systems, and various sensors. Pumps blowers, and vacuum systems will also be covered. Prerequisite(s): ETAS2224, ETAS2580.

MAPT 2800 - Automated Systems (3 cr)

This course focuses on the diagnosis and repair of electro-mechanical systems. Industrial systems are comprised of motor controls, variable speed frequency drives, servo motors, programmable logic controllers, sensors, hydraulics, mechanical systems, and computer integration. Students will develop skills in troubleshooting and maintaining complex industrial systems. Prerequisite(s): MAPT2110, ETAS2224, ETAS2230.

MAPT 2900 - Manufacturing Internship (3 cr)

This course provides the student with a supervised work experience in the field of manufacturing. Specific employer, work assignment, hours of work and rate of pay are determined on an individual basis. Students will complete a weekly log of activities and write a reflective paper documenting the experience. Prerequisite(s): MAPT2110, ETAS2224, ETAS2230.

Mathematics

MATH 0080 - Math Foundations (3 cr)

This course helps students improve basic math skills and apply these skills to a variety of occupational programs and experiences. Topics include fractions, decimals, percents, ratios and proportions, powers and roots, and signed numbers. To successfully complete this course, students must achieve a grade of C or higher. Prerequisite(s): None.

MATH 0090 - Introductory Algebra (3 cr)

This course is an introduction to algebraic concepts. Topics covered include absolute value, algebraic expressions and equations, polynomials, factoring, properties of exponents, application problems, and an introduction to functions. To successfully complete this course, students must achieve a grade of "C" or higher. Prerequisite(s): MATH0080 or appropriate Math assessment test score.

MATH 0094 - Pre-College Algebra (4 cr)

This course is designed for those students with some algebraic background. This course covers basic polynomial operations, graphing linear equations and inequalities, solving systems of linear equations, writing equations of lines, rational expressions and equations, roots and radicals in expressions and equations, complex numbers, and solving quadratic equations. To successfully complete this course, students must achieve a grade of C or higher. Prerequisite(s): MATH0080 or appropriate Math assessment test score.

MATH 0098 - Intermediate Algebra (3 cr)

This course covers graphing linear equations and inequalities, solving systems of linear equations, writing equations of lines, rational expressions and equations, roots and radicals in expressions and equations, complex numbers, and solving quadratic equations. To successfully complete this course, students must achieve a grade of C or higher. Prerequisite(s): MATH0090 or appropriate Math assessment test score.

MATH 1001 - Technical Mathematics (3 cr)

This course examines basic mathematical topics as they apply to applications in a technical program. As such, specific topics and applications will vary depending on the target audience. The course includes a review of basic mathematical operations, simple equations, and measurement conversions using the dimensional analysis method. It then continues with the development of algebraic and/or trigonometric skills as they apply to that particular technical setting. Most concepts will be applied through course-specific problems. Prerequisite(s): MATH0080 or appropriate Math assessment score.

MATH 1003 - Math Applications for Nurses (2 cr)

This course examines basic mathematical concepts as they apply to the nursing program. The course includes a review of mathematical operations, and measurement conversions. Specific skills covered include medication dosage calculations, fluid replacement, intravenous drug calculations, and titration of medications. Prerequisite(s): Completion of MATH 0080 with a "C" or better or appropriate Math assessment score.

MATH 1102 - Contemporary Math (3 cr)

(Fulfills MNTC Areas: 2, 4) This is a Liberal Arts math course for students who wish to acquire a broad background in mathematics without taking a traditional math course. Content area includes but not limited to critical thinking, problem solving, symbolic logic, number theory, algebra, geometry, probability, and statistics. Prerequisite(s): MATH0090, or appropriate MATH assessment test score.

MATH 1106 - Trigonometry (2 cr)

(Fulfills MNTC Area: 4) This is a course designed to provide students with an adequate foundation in trigonometric functions, identities, solutions of triangles, inverse trigonometric functions, equations, complex numbers, and polar coordinates. Prerequisite(s): MATH0094, or MATH0098, or appropriate Math assessment test score.

MATH 1110 - College Algebra (3 cr)

(Fulfills MNTC Area: 4) This course covers basic algebraic operations, linear and quadratic equations and inequalities, variation, functions and their graphs, binomial expansion, theory of equations, rational equations, conic sections, exponential and logarithmic functions, and systems of equations. Students who have taken MATH1113 will not receive credit for this course. Prerequisite(s): MATH0094, or MATH0098, or appropriate Math assessment test score.

MATH 1113 - Pre-Calculus (5 cr)

(Fulfills MNTC Area: 4) This is a first-year course designed for students who wish to enter the calculus track. Content includes equations and inequalities, polynomial and rational functions, exponential and logarithmic functions, analytic trigonometry, analytic geometry, and conic sections. Students who have taken MATH1110 will not receive credit for this course. Prerequisite(s): MATH0094, or MATH0098, or appropriate Math assessment test score.

MATH 1131 - Applied Calculus (3 cr)

(Fulfills MNTC Area: 4) This course is an introductory conceptual calculus course with an overview of differential and integral calculus. Prerequisite(s): A grade of C or better in MATH1110 or MATH1113.

MATH 2203 - Statistics (4 cr)

(Fulfills MNTC Area: 4) This course covers the basic concepts of elementary statistics, including descriptive statistics, elementary probability, probability distributions, confidence intervals, hypothesis testing, correlation, chi-square tests, ANOVA, statistical inference, and linear and multiple regression. Prerequisite(s): A grade of C or better in MATH0094 or MATH0098 or MATH1102; or an appropriate placement test score on the Elementary Algebra section of the Math assessment test.

MATH 2231 - Calculus I (4 cr)

(Fulfills MNTC Area: 4) This course is a first in a sequence of courses designed to cover limits, continuity, differentiation and integration of algebraic and trigonometric functions, and applications of derivatives. Prerequisite(s): (MATH1106 and MATH1110), or MATH1113.

MATH 2232 - Calculus II (4 cr)

(Fulfills MNTC Area: 4) This course is a second in sequence of courses designed to cover differentiation and integration of transcendental functions, techniques of integration, applications of integration, sequences and series, polar coordinate system, and parametric curves. Prerequisite(s): MATH2231.

MATH 2233 - Calculus III (4 cr)

This is the third in a sequence of courses covering calculus of several variables, partial differentiation, multiple integration, and vector calculus. Prerequisite(s): MATH2232.

Sales Marketing & Management

MKTG 1108 - Customer Relations Management (3 cr)

Customer relationship management 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 2116 - Advertising (3 cr)

This course acquaints 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 2120 - Supervisory Leadership (3 cr)

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.

MKTG 2200 - Principles of Marketing (3 cr)

This course introduces students to the dynamic field of marketing. This course is a comprehensive study of the traditional marketing principles and concepts and their application to a changing business world. Prerequisite(s): None.

MKTG 2201 - Principles of Sales (3 cr)

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 2205 - Principles of Retailing (3 cr)

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 2300 - Marketing Research (3 cr)

This course covers market research principles and procedures that are necessary for marketing professionals to be successful. Topics covered include survey methods and techniques, problem identification, data collection techniques, sample type and size, presentation of findings and using the internet as a source. Prerequisite(s): MKTG2200.

MKTG 2304 - Applied Sales Techniques (3 cr)

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. Students apply strategies in sales communications, customer oriented selling, and sales management. Prerequisite(s): MKTG2201.

MKTG 2306 - Small Business Management (3 cr)

This course provides a summary of many of the major issues faced by anyone starting a small business. Prerequisite(s): None.

MKTG 2320 - Marketing Management (3 cr)

This course provides an overview of the critical aspects of marketing management. Emphasis is placed on applying marketing principles and strategies through case analysis and the development of a marketing plan. Prerequisite(s): MKTG2200.

MKTG 2410 - Social Media Marketing (3 cr)

This course introduces students to the social media marketing field. This course is a comprehensive study of the online marketing principles and concepts and their application to a changing business world. Prerequisite(s): None.

MKTG 2430 - Digital Marketing I (3 cr)

This course introduces students to digital marketing field. It will provide the basics and background needed to successfully complete Digital Marketing II. Prerequisite(s): MKTG2200.

MKTG 2450 - Digital Marketing II (3 cr)

This course is a comprehensive study of the digital marketing principles and concepts and their application to a changing business world. It will allow the student to apply the concepts and critically analyze the digital marketing message and communication. Prerequisite(s): MKTG2430.

MKTG 2900 - Internship I (3 cr)

For this course, projects, reports, and discussions are coordinated to relate to students' employment situations. Employment in an approved wholesale/retail marketing occupation, training verification, and evaluation are required of each student. A maximum of nine internship credits will apply toward graduation. Prerequisite(s): None.

MKTG 2920 - Internship II (3 cr)

For this course, projects, reports, and discussions are coordinated to relate to students' employment situations. Employment in an approved wholesale/retail, marketing, customer relations occupation, training verification, and evaluation are required of each student. A maximum of nine internship credits will apply toward graduation. Prerequisite(s): None.

Music

MUSC 1101 - Musical Experience (3 cr)

(Fulfills MNTC Area: 6) This introductory music course is created specifically for non-majors with little or no technical knowledge of music. It is designed to help students experience music through improved perceptions and understanding of what takes place in a piece of music and everything that goes into creating a piece of music. Human condition and aesthetics are discussed within the various historical and social contexts in which the music was developed. Prerequisite(s): None.

MUSC 1102 - Rock History (3 cr)

(Fulfills MNTC Areas: 6, 7) This is a survey course that is geared towards the non-music major. The course will focus on American Rock music but will also briefly include its precursors as well as its global offspring. Connections will be drawn between the social and historical context of diverse cultures in America and the development of diverse musical aesthetics with particular emphasis placed on the impact that African-American men and women had on its development. Prerequisite(s): None.

MUSC 1111 - Music Fundamentals (3 cr)

(Fulfills MNTC Area: 6) Music Fundamentals is an introductory course on music reading, writing and analysis. Instruction is designed to develop knowledge of basic music notation and terminology. Knowledge of major and minor scales, key and time signatures, intervals, rhythm, and chord structure is demonstrated through sight singing, ear training, and entry level piano. Prerequisite(s): None.

MUSC 1155 - Class Voice (2 cr)

This course is class instruction for all types of voices covering the fundamentals of voice training, vocal building exercises, breathing exercises, vocal health tips, phonation, posture, ear training, basic note reading, and improved confidence. The course will introduce a variety of vocal styles from classics to pop, microphone technique, and fun group singing. Students are not required to do solo performances in this class. Prerequisite(s): None.

MUSC 1175 - Class Guitar (2 cr)

This course is designed for those students having no previous training in guitar. The course will cover the basics of guitar technique, the fundamentals in reading and playing chords, reading music, and playing melodies on the guitar. Students are not required to do solo performances in this class. Prerequisite(s): None.

MUSC 1181 - Chamber Choir (1 cr)

Choral music from a variety of different styles, periods and cultures is prepared for public performance. At least one major performance is given a semester. Opportunities for solo and small ensemble work within the choir are available. Local tours and trips to metropolitan cities are possible additional performance and growth opportunities for registered choir members. This course may be repeated for credit. Prerequisite(s): None

MUSC 1183 - Community Band (1 cr)

Instrumental music from a variety of different styles, periods and cultures is prepared for public performance. At least one major performance is given a semester. Opportunities for solo and small ensemble work within the band are available. Local tours and trips to metropolitan cities are possible additional performance and growth opportunities for registered band members. The course may be repeated for credit. Prerequisite(s): Open to all students by audition or consent of instructor.

MUSC 1185 - Jazz Band (1 cr)

Jazz music in a variety of different styles is prepared for public performance. At least one major performance is given a semester. Opportunities for solo and small ensemble work within the jazz band are available. Local tours and trips to metropolitan cities are possible additional performance and growth opportunities for registered jazz band members. Prerequisite(s): Open to all students by audition or consent of instructor.

MUSC 1187 - Masterworks Chorale (1 cr)

Choral music considered to be Master Choral Works from a variety of different styles, periods and cultures is prepared for public performance. At least one major performance is given a semester. Opportunities for solo and small ensemble work within the choir are available. Northland is an annual participant in the Minnesota Fine Arts Festival for Community Colleges. Local tours and trips to metropolitan cities are additional

performance and growth opportunities for registered choir members. It may be repeated for credit. Prerequisite(s): Open to all students by audition or consent of instructor.

MUSC 1189 - Special Ensemble (1 cr)

Students will participate in various music performance ensembles including but not limited to African Drum Ensemble, Celtic Music Group, Recorder Ensemble, Vocal Jazz Ensemble well as Pep Band and Adult Beginner Band. At least one major performance is given a semester. Ensembles offered will be dictated by student interest and performance opportunities. Open to all students by audition or consent of instructor. May be repeated for credit. Prerequisite(s): None.

MUSC 2108 - Jazz History (3 cr)

(Fulfills MNTC Areas: 6, 7) This is an introduction to the art of jazz, with emphasis on listening. The course is for all levels of musical ability, knowledge, and familiarity. Students will be guided through the evolution of jazz by listening to representative examples and learning about its African and European heritages. The majority of jazz history is discussed, listened to, and tied into relevant historical events and social context. It is recommended that the student complete a 1000 level music course prior to enrolling in this course. Prerequisite(s): None.

MUSC 2201 - Classroom Music Skills (3 cr)

(Fulfills MNTC Area: 6) The class is designed to develop personal skills in music as well as skills necessary for performing in and leading musical groups. Students must have music reading ability, or a basic understanding of musical notation. Special areas of interest are singing voice, basic piano skills, autoharp, recorder and basic guitar. Prerequisite(s): None.

MUSC 2203 - World Music (3 cr)

(Fulfills MNTC Areas: 6, 8) This course is an in-depth exploration of the music of a small number of representative groups, all of which are not Western European, including, but not limited to Africa, Indonesia, China, Japan, India and some Latin American countries. Students will examine the music much as an ethnomusicologist would through the examination and study of musical elements (rhythm, harmony, timbre, melody, and texture). Lecture, reading and discussion will also include the reasoning and purpose behind the music including social, religious, historical and political context. It is recommended that the student complete a 1000 level music course prior to enrolling in this course. Prerequisite(s): None.

MUSC 2251 - Private Voice (1 cr)

This course is designed for students who wish to study vocal techniques in a private lesson situation. One thirty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): None.

MUSC 2252 - Private Voice (2 cr)

This course is designed for students who wish to study vocal techniques in a private lesson situation. One sixty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): May only register with consent of instructor.

MUSC 2261 - Private Piano (1 cr)

This course is designed for students who wish to study piano techniques in a private lesson situation. One thirty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): None.

MUSC 2262 - Private Piano (2 cr)

This course is designed for students who wish to study piano techniques in a private lesson situation. One sixty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): May only register with consent of instructor.

MUSC 2271 - Private Instrument (1 cr)

This course is designed for students who wish to study instrumental techniques in a private lesson situation. One thirty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): None.

MUSC 2272 - Private Instrument (2 cr)

This course is designed for students who wish to study instrumental techniques in a private lesson situation. One sixty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): May only register with consent of instructor.

MUSC 2281 - Digital Music Media (1 cr)

This course is designed for students who wish to study computer sequencing and notation techniques through the use of standard industry software. One thirty-minute lesson a week for 15 weeks is provided. Students are responsible for setting up lesson time before the semester begins. It may be repeated for credit. Prerequisite(s): None.

Natural Science

NSCI 1103 - Geology (4 cr)

(Fulfills MNTC Areas: 3, 10) This class is an introductory course in physical geology. Topics include a survey of common rocks and minerals, and an investigation of the geologic forces at work in our physical environment, including erosion, volcanoes, earthquakes and flooding. The class also investigates the geologic history of the earth and geological structure as illustrated in topographical mapping**.** Prerequisite(s): None.

NSCI 1123 - Astronomy (4 cr)

(Fulfills MNTC Area: 3) This is a survey course in descriptive and modern astronomy, including a study of solar system and stellar formation, star and galaxy evolution, cosmology and study of the universe. Lecture and lab. Prerequisite(s): None.

NSCI 2203 - Environmental Science (4 cr)

(Fulfills MNTC 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. This will allow for discussion and analysis of current topics related to those issues. Lecture and lab. Prerequisite(s): None.

Registered Nursing

NURS 2110 - Health Assess/Professional Skills (3 cr)

This course uses classroom instruction, small group discussion and lab experiences to develop students' abilities to utilize the nursing process as a framework for completing holistic nursing assessments, identifying health needs across the life span, and developing individualized interventions. Theory emphasizes the principles and rationales of professional nursing skills necessary to problem solve relative to diverse situations. Prerequisite(s): Admission to AD RN program.

NURS 2121 - Psychosocial Integrity (2 cr)

This course describes and examines psychosocial issues, human responses to illness and theories related to the development of mental health and illnesses. Utilizing the therapeutic communication process, students will learn to assist patients as they adapt to alterations in health. Psycho-pharmacological and other therapeutic interventions are considered in the nursing care of patients/clients experiencing mental health concerns. Prerequisite(s): Admission to AD RN program.

NURS 2123 - Nursing Interventions I (3 cr)

This course builds on concepts, knowledge and skills introduced in practical nursing programs and the supporting sciences. A major focus is on the independent, delegated and collaborative nursing interventions administered to restore the individual back to homeostasis. Specific health topics include pain, genetics, fluid and electrolytes, respiratory, gastrointestinal, immune disorders, and surgery. Prerequisite(s): Admission to AD-RN Mobility Nursing program. Pre or Corequisite: college level Chemistry course, NURS2110.

NURS 2125 - Clinical I (4 cr)

This course prepares students to function in the clinical setting as professional nurses with emphasis on utilization of the nursing process and therapeutic relationships. Prerequisite(s): Admission to AD RN program, Co/prerequisites: NURS2110, NURS2121, NURS2123, and CHEM2205.

NURS 2131 - Nursing Interventions II (3 cr)

This course is designed to build on concepts, knowledge and skills introduced in Nursing Interventions I and the supporting sciences. A major focus is on the independent, delegated and collaborative nursing interventions administered to restore the individual to

homeostasis. Specific health topics include cardiovascular, hematological, neuroendocrine, renal, reproductive health, and obstetrical disorders. Prerequisite(s): NURS2110 and CHEM2205.

NURS 2133 - Professional Role (2 cr)

This course addresses the integration and application of professional values and beliefs necessary for effective role transition. Prerequisite(s): Co/prerequisite: NURS2135.

NURS 2135 - Clinical II (4 cr)

This course prepares students to function in the clinical setting as professional nurses with emphasis on advanced nursing skills, leadership and team building capabilities. Prerequisite(s): NURS2110, NURS2125. Corequisite: NURS2133.

Orientation

ORI 0100 - Intro to Online Learning (0 cr)

The Introduction to Online Learning course offers students the opportunity to participate in a mini-online course while offering an interactive overview of D2L Brightspace, eServices and tips students need to be prepared for and successful in an online course. This workshop is approximately one week in length. Course strongly recommended for students enrolling in their first online college course. Does not require an admission status. Prerequisite(s): None.

Occupational Therapy Assistant

OTAC 1001 - Intro to Occupational Therapy (2 cr)

This course provides an introduction to the profession of occupational therapy. The history, philosophical base and educational requirements, licensure and certification requirements of the profession are discussed. An introduction to basic concepts such as occupation in context to promote health and prevention, role of Occupational Therapist (OT) and Occupational Therapy Assistant (OTA), professional associations, and professional relationships are covered. The course covers the Occupational Therapy Practice Framework, the Occupational Therapy therapeutic process, activity analysis, adaptation and grading. Ethics and Standards of Practice will be introduced. Prerequisite(s): None.

OTAC 1115 - Disability/Disease Process (2 cr)

This course will examine normal development from infancy to adulthood. Emphasis will be on clinical conditions commonly referred to Occupational Therapy that interrupt development and engagement in occupation throughout the lifespan. Basic theories related to remediation of body structure and function through engagement in occupation will be discussed. Emphasis is placed on independent and active learning with emphasis on developing skills for lifelong learning. Students will be provided opportunities to work collaboratively intra-professionally. Students will be evaluated and will evaluate themselves on their professional behavior through-out the semester to assist them in developing and enhancing their professionalism as a health professional. Prerequisite(s): OTAC1001, PSYC2201, BIOL2252, HLTH1106.

OTAC 1125 - Physical Health Foundations (3 cr)

This course focuses on the foundational skills needed to practice as an occupational therapy assistant in the physical health setting. Students will be able to differentiate between the roles of an Occupational Therapy Assistant (OTA) and an Occupational Therapist (OT) in the physical health setting. Students will participate in independent and active learning with emphasis on developing skills for lifelong learning. The students will identify evidence based practice and occupation based treatment ideas for the physical health setting. Students will be provided opportunities to work collaboratively inter-professionally and intra-professionally and will gain the foundational skills necessary to develop professional behaviors to be successful as an occupational therapy assistant. Prerequisite(s): OTAC1001, PSYC2201, BIOL2252, HLTH1106.

OTAC 1135 - Psychosocial Foundations (3 cr)

Foundations of psychosocial Occupational Therapy practice will be covered. Group dynamics, group process, teaching/learning process, therapeutic use of self, expected roles and student self-analysis will be key concepts integrated throughout the course. Basic theories related to occupational function will be covered. Students will also be able to differentiate between the roles of an Occupational Therapy Assistant (OTA) and an Occupational Therapist (OT) in the Occupational Therapy Process. Emphasis is placed on

independent and active learning with emphasis on developing skills for lifelong learning. Students will be provided opportunities to work collaboratively intra-professionally. Students will be evaluated and will evaluate themselves on their professional behavior through-out the semester to assist them in developing and enhancing their professionalism as a health professional. Prerequisite(s): OTAC1001, PSYC2201, BIOL2252, HLTH1106.

OTAC 1145 - Scholarship I (1 cr)

This course will allow students to develop the necessary skills needed to locate appropriate resources, interpret, and apply this knowledge to the practice of occupational therapy. This course focuses on skills needed to be a consumer of research and promotes the use of Evidence Based Practice (EBP) throughout the occupational therapy process. Foundations for ethical reasoning are built and concepts of collaboration will be introduced. Opportunities for independent and active learning are provided throughout the course with emphasis on skills for lifelong learning. Involvement in the OTA Club is also a requirement of this course. Prerequisite(s): OTAC1001, PSYC2201, BIOL2252, HLTH1106.

OTAC 1155 - Movement for Occupations (3 cr)

This course focuses on learning about muscle function, muscle strength, muscle endurance, functions of joints and bones, innervations and the movement needed to allow people to complete their everyday occupations. Students will examine types of muscle contractions and joint movements during occupation based activities through muscle activity analysis. The students will identify evidence based practice treatment ideas for various health conditions that affect the neuromusculoskeletal system. The students will have opportunities for independent and active learning through-out the course with emphasis on skills for lifelong learning. Prerequisite(s): OTAC1001, PSYC2201, BIOL2252, HLTH1106.

OTAC 2015 - Pediatric Community Practice (2 cr)

This course focuses on children and adolescents through early adulthood populations engaging in occupations in context. The role of occupational therapy within community systems is addressed. Emerging roles of occupational therapy assistants (OTA) in the community are explored as well as the roles of the OTA versus the role of the Occupational Therapist (OT). Students complete labs in community practice and are required to articulate the role of occupational therapy to individuals in the community settings Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively, inter-professionally and intra-professionally and to develop and enhance professionalism as a health professional. Prerequisite(s): OTAC1115.

OTAC 2025 - Pediatric Physical Health (5 cr)

This course focuses on occupational therapy evaluation, treatment, and implementation from birth to young adult. Normal development and interruption of physical function with this age group will be explored. This population will be evaluated, occupation based evidence based practice will be identified and implemented. Roles of occupational therapy assistants (OTA) and the role of the Occupational Therapist (OT) in the Occupational Therapy process are explored. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively inter-professionally and intra-professionally and to develop and enhance professionalism as a health professional. Students will be required to complete one level 1 fieldwork experience in a Physical Health setting with corresponding age group. Prerequisite(s): OTAC1125.

OTAC 2035 - Pediatric Psychosocial (5 cr)

This course focuses on normal development and impairment of global and specific mental function for individuals from birth through early adulthood. Occupational therapy evaluation, treatment, and implementation, normal development and interruption of function with this age group will be explored. This population will be evaluated and occupation based evidence based practice will be identified and implemented. Roles of occupational therapy assistants (OTA) and the role of the Occupational Therapist (OT) in the Occupational Therapy process are covered. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively intra-professionally and to develop and enhance professionalism as a health professional. Students will be required to complete one level 1 fieldwork experience in a setting with the focus on psychosocial and social factors that influence engagement in

occupation with corresponding age group. Prerequisite(s): OTAC1135.

OTAC 2045 - Scholarship II (2 cr)

This course requires students to evaluate and interpret professional resources to assist in developing their clinical reasoning skills. The students will utilize the skills learned in Scholarship I to analyze and critique scholarly work and apply this information to Occupational Therapy (OT) practice. Application of ethical principles and behavior are used in the analysis of scholarly work and the exploration of emerging practice areas in OT. Emphasis is placed on independent and active learning. Involvement in the OTA Club is also a requirement of this course. Prerequisite(s): OTAC1145.

OTAC 2115 - Adult Community Practice (2 cr)

This course focuses on early adulthood through senescence populations engaging in occupations in context. The role of occupational therapy within community systems is addressed. Emerging roles of occupational therapy assistants (OTA) in the community are explore as well as the roles of the OTA versus the role of the Occupational Therapist (OT) in the community. Students complete labs in community practice and are required to articulate the role of occupational therapy to individuals in the community settings. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively inter-professionally and intra-professionally and to develop and enhance professionalism as a health professional. Prerequisite(s): OTAC2015.

OTAC 2125 - Adult Physical Health (5 cr)

This course focuses on occupational therapy evaluation, treatment, and implementation from young adulthood through senescence. Normal development and interruption of physical function with this age group will be explored. This population will be evaluated, occupation based evidence based practice will be identified and implemented. Roles of occupational therapy assistants (OTA) and the role of the Occupational Therapist (OT) in the Occupational Therapy process are explored. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively, inter-professionally and intra-professionally and to develop and enhance professionalism as a health professional. Students will be required to complete one level 1 fieldwork experience in a physical health setting with corresponding age group. Prerequisite(s): OTAC2025.

OTAC 2135 - Adult Psychosocial (5 cr)

This course focuses on normal development and impairment of global and specific mental function for individuals from early adulthood through senescence. Occupational therapy evaluation, treatment, implementation, normal development and interruption of function with this age group will be explored. This population will be evaluated and occupation based evidence based practice will be identified and implemented. Roles of occupational therapy assistants (OTA) and the role of the Occupational Therapist (OT) in the Occupational Therapy process are covered. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course provides an opportunity to work collaboratively intra-professionally and to develop and enhance professionalism as a health professional. Students will be required to complete one level 1 fieldwork experience in a setting with the focus on psychological and social factors that influence engagement in occupation with corresponding age group. Prerequisite(s): OTAC2035.

OTAC 2145 - Scholarship III (1 cr)

This course allows the student to further promote scholarship through professional development and by the integration of academic learning in the completion of a capstone project. The students will utilize the skills learned in Scholarship I and II to analyze and critique scholarly work, apply this information to Occupational Therapy (OT) practice, and present this information utilizing professional and ethical behavior via a capstone project. Emphasis is placed on independent learning to promote skills to develop students into lifelong learners. Involvement in the OTA Club is also a requirement of this course. Prerequisite(s): OTAC2045.

OTAC 2155 - Professional Topics (2 cr)

This course focuses on Occupational Therapy (OT) professional ethics, values and responsibilities. The course covers development of personal and professional development plans, resumes, and promotion of the profession. Emphasis is placed on independent and active learning with focus on developing skills for lifelong learning. This course

provides an opportunity to work collaboratively intra-professionally and to develop and enhance professionalism as a health professional. Prerequisite(s): None.

OTAC 2225 - Physical Health Fieldwork (6 cr)

The student will participate in an eight week supervised clinical experience in a physical health setting. Knowledge and skills learned from previous courses are applied when working with clients and staff in a clinical setting. Students are supervised by an Occupational Therapist (OT) and/or an Occupational Therapy Assistant (OTA) and will have opportunities to work intra and inter professionally throughout the 8 week fieldwork. Students will share their knowledge of evidence based practice with others during their placement to promote lifelong learning. Prerequisite(s): OTAC2125.

OTAC 2235 - Psychosocial Fieldwork (6 cr)

The student will participate in an eight week supervised clinical experience in a setting where they will be addressing the psychosocial aspects of the clients. Knowledge and skills learned from previous courses are applied when working with clients and staff in a clinical setting. Students are supervised by an Occupational Therapist (OT) and/or an Occupational Therapy Assistant (OTA) and will have opportunities to work intra and inter professionally throughout the 8 week fieldwork. Students will share their knowledge of evidence based practice with others during their placement to promote lifelong learning. Prerequisite(s): OTAC2135.

Precision Agriculture Equipment Technician

PAET 1100 – Intro to Precision Agriculture (3 cr)

This is an introductory level course where students study the theory and principles of precision agriculture equipment and become familiar with global positioning systems (GPS) and develop a working knowledge of variable rate systems. The goal of this course is to provide the student with a general overview of current and emerging technologies in precision agriculture as is relates to farm operations and production agriculture. Prerequisite(s): None.

PAET 1110 - Equipment Operations (3 cr)

This is an introductory level course where students will learn the selection, function, safe operation and economic consideration of machines and equipment used in production agriculture. In addition, this course will provide the student with a general overview OSHA laws as it pertains to agriculture and state laws regarding safe operation of farm equipment. Students will learn about a commercial vehicle operation (CVO) license and privileges. Prerequisite(s): None.

PAET 1115 - Shop Tools/Practices (2 cr)

This is an introductory level course where students will learn the proper use of tools (hand & power), hardware, materials, and diagnostic equipment used in the repair and maintenance of precision agriculture equipment. Prerequisite(s): None.

PAET 1120 - Air Conditioning (2 cr)

This course covers refrigeration theory and principles of operation, diagnosis and repair of precision agriculture equipment heating and air conditioning. Students enrolled in this course will become certified to comply with state and federal laws. Prerequisite(s): None.

PAET 1125 - Light/Medium Engines (3 cr)

This is an introductory level course where students will learn the basic theory and function of engines including the diagnosis and repair of intake, exhaust, lubrication systems, cylinder heads, bearings and crankshafts of engines used in production agriculture. Prerequisite(s): None.

PAET 1130 - Hydraulic Systems (4 cr)

This course teaches the principles and application theory, construction, fluid flow of components and operation of precision agriculture equipment. Further, this course will teach the fundamentals of diagnosis, repair and service of the components of hydraulic and hydraulic drive systems used in precision agriculture equipment. Prerequisite(s): PAET1115.

PAET 1140 - Ag Electrical Systems (3 cr)

This course teaches the functionality of precision agriculture electronic systems and how to troubleshoot, diagnose and repair various electric components, safety devices, comfort control and electronic monitors/controllers. The students will use technical manuals, wiring diagrams and shop tools to diagnose

and pinpoint electrical malfunctions in precision agricultural equipment. Prerequisite(s): ETAS1105.

PAET 2200 - Advanced Farming Systems (3 cr)

This course covers the use of computers, hardware, software and displays used in precision agriculture machinery. Students enrolled in this course will install, diagnose and troubleshoot computer hardware and software programs used in precision agriculture machinery. Prerequisite(s): None.

PAET 2205 - Heavy Duty Engines (3 cr)

This is an advanced level course where students will put into practice theories and functionality of engines learned in PAET 1125. In addition, students will learn to inspect, repair, disassemble and diagnose heavy duty engines and fuel systems. Prerequisite(s): PAET1125.

PAET 2210 - Ag Drive Systems (3 cr)

This course covers the theory and principles of power transmissions from the engine to drive wheals or tracks of machines used in precision agriculture. Students enrolled in this course learn the function and operation of gears, chains, planetary gears, drive lines, differentials and transmissions of precision agriculture equipment. Prerequisite(s): None.

PAET 2230 - Internship (1 cr)

This course is an internship in precision agriculture at a precision agriculture setting. Students enrolled must work under the direct supervision of instructors and personnel at a precision agriculture setting. Prerequisite(s): Instructor consent.

PAET 2235 - On-the-Job Training (3 cr)

This course is an on-the-job training in precision agriculture sponsored by a precision agriculture setting. Students enrolled must work under the direct supervision of instructors and personnel at a precision agriculture setting. Prerequisite(s): PAET2230.

Philosophy

PHIL 1101 - Introduction to Philosophy (3 cr)

(Fulfills MNTC Areas: 2, 6) This course is a general introduction to the approach, questions, and schools of the philosophic tradition through an examination of various issues central to our understanding of the nature of knowledge, reality, and the good human life. Prerequisite(s): None.

PHIL 1102 - Introduction to Ethics (3 cr)

(Fulfills MNTC Areas: 2, 6, 9) This course is a general introduction to ethics. The course examines theoretical explanations of the nature of morality and the moral assessment of actions, agents, and states of affairs. It also applies these explanations to contemporary moral issues. Prerequisite(s): None.

PHIL 1111 - Philosophy of Religion (3 cr)

(Fulfills MNTC Areas: 6, 8) The philosophical study of religion includes identifying concepts central to religious traditions and examining arguments concerning philosophical issues that arise within religious contexts. Some examples of core concepts and issues that may be discussed are the nature of religious experience, the rationality of religious belief, and the ethical implications of religious views. Prerequisite(s): None.

PHIL 2000 - Logic (3 cr)

(Fulfills MNTC Areas: 2, 4) This course is a general introduction to logic, focusing on logical concepts (such as validity and consistency) and formal logical systems. Students learn how to apply concepts and work proofs in the formal systems and how to translate between the formal systems and English. Prerequisite(s): MATH0080 or appropriate Math assessment score.

PHIL 2210 - Morals and Medicine (3 cr)

(Fulfills MNTC Areas: 2, 6, 9) This course is a general introduction to ethical 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 arise within 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.

PHIL 2220 - Environmental Ethics (3 cr)

(Fulfills MNTC Areas: 2, 9, 10) This course provides a broad introduction to ethical issues relating to the environment and human's impact on it. The course examines several general theoretical approaches to moral problems and applies those explanations to issues of local, national, and global concern. Examples of such issues include, but are not limited to, management of natural resources, climate change, sustainability, energy production and use, pollution and waste, genetic modification, and animal rights. Prerequisite(s): None.

PHIL 2240 - Ethics and Business (3 cr)

(Fulfills MNTC Area: 8, 9) This course is a general introduction to ethical issues as they arise in the practice of business for owners and workers, as well as the impact those practices have on our culture and everyday lives. In addition to developing an understanding of moral theories and principles, students develop an understanding of how moral theories and principles relate to their lives through the study relevant moral issues. Examples of such topics include, but are not limited to, corporate social responsibilities, globalization, employee responsibilities, discrimination in the workplace, affirmative action, intellectual property issues, whistle blowing, and the ethics and impact of advertising. Prerequisite(s): None.

Phlebotomy

PHLB 1104 - Phlebotomy Procedures (2 cr)

This course covers an understanding of ethical codes of the health care system, basic operation and organizational structure of a laboratory, effective communication skills, knowledge of phlebotomy methods and procedures, safety practices, quality assurance, organizational skills and sample collection criteria necessary to be successful as a phlebotomist. Students enter patient, or donor, information, often interfaced with computers, and communicate with the entire health care team and public to ensure quality care for patients and donors. Prerequisite(s): Corequisite: PHLB1105, PHLB1106**.**

PHLB 1105 - Phlebotomy Lab Skills (1 cr).

This course covers the laboratory skills required of a phlebotomist. Students will apply current laboratory safety and infection control practices while performing routine clinical laboratory specimen collection and processing. Waived laboratory testing will also be performed. Prerequisite(s): Corequisite: PHLB1104, PHLB1106.

PHLB 1106 - Clinical Phlebotomy Intern (3 cr)

The clinical internship will implement skills learned in the Phlebotomy Procedures course. Students are assigned to an affiliated hospital or clinic laboratory. Prerequisite(s): Corequisite: PHLB1104, PHLB1105.

Pharmacy Technology

PHRM 1001 - Fundamental Concepts of Pharm (1 cr)

This course introduces students to the organization and function of the hospital and retail pharmacy. Emphasis is placed upon the duties and responsibilities of the pharmacy technician. Prerequisite(s): None.

PHRM 1002 - Pharmacy Calculations (2 cr)

This course introduces the student to the calculations required to accurately prepare patient medication for distribution. Prerequisite(s): MATH0080 or an Accuplacer score of 50 or higher.

PHRM 2001 - Pharmacy Principles/Practices I (4 cr)

This course covers drug names, classifications and mechanisms of action, the use of computers in pharmacy and their practical applications. Students will be introduced to hospital and retail dispensing techniques as well as basic customer service. Prerequisite(s): None.

PHRM 2002 - Pharmacy Principles/Practices II (5 cr)

This course covers intravenous drug admixture, total parenteral nutrition compounding, critical care intravenous admixture, and unit dose medication dispensing to nursing units. Emphasis is placed upon medication storage and stability, diabetic supplies, and chemotherapy storage and admixture. Prerequisite(s): PHRM1001, PHRM1002, PHRM2001.

PHRM 2004 - Professional Prac/Law (3 cr)

This course introduces pharmacy law and subjects pertaining to professional practice, including compounding products, resumes and interviewing, and

reimbursement for pharmacy services. Prerequisite(s): PHRM1001, PHRM1002, PHRM2001.

PHRM 2010 - Experiential/Hospital (3 cr)

This supervised instructional experience in the clinical setting introduces students to tasks performed by the pharmacy technologist. Prerequisite(s): All required courses.

PHRM 2012 - Experiential/Retail (3 cr)

This supervised instructional experience in the clinical setting introduces students to tasks performed by the pharmacy technologist. Prerequisite(s): All required courses.

Physics

PHYS 1111 - General Physics I (4 cr)

(Fulfills MNTC Area: 3) This is the first of the introductory physics sequence with laboratory. This course gives a general theoretical and practical introduction to physics. Topics include: mechanics and gravitation, work and energy, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics. A background in trigonometry is necessary. Prerequisite(s): Appropriate Math assessment score.

PHYS 1112 - General Physics II (4 cr)

(Fulfills MNTC Area: 3) This is a continuation of the introductory physics sequence with laboratory. Topics include: mechanics and gravitation, work and energy, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics. Prerequisite(s): PHYS1111.

PHYS 2211 - Physics I (5 cr)

(Fulfills MNTC Area: 3) This course is the first of the calculus-based physics sequence with laboratory. Topics of the sequence include: mechanics and gravitation, work and energy, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics. Prerequisite(s): MATH2231 or concurrent.

PHYS 2212 - Physics II (5 cr)

(Fulfills MNTC Area: 3) This course is a continuation of the calculus-based physics sequence with laboratory. Topics of the sequence include: mechanics and gravitation, work and energy, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics. Prerequisite(s): PHYS2211.

Plumbing Technology

PLBG 1104 - Building Sewers/Drainage Systems (3 cr)

This course covers practical experience in the installation of sewers and drain piping by learning methods for 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. Co-requisites: PLBG1108, PLBG1110, PLBG1112.

PLBG 1108 - Plumbing/Piping Drawings (2 cr)

This course provides students with the technical understanding and skills in blueprint reading and product spec sheets needed by plumbers. Topics include drawing interpretation, isometric sketches of piping installations, and drafting mechanical plans of piping for residential construction. Prerequisite(s): None. Co-requisites: PLBG1104, PLBG1110, PLBG1112.

PLBG 1110 - Copper Pipe Procedures (2 cr)

This course provides students with the technical knowledge and skills for completing copper and crossed-linked polyethylene (PEX) piping procedures. Topics include safety, appropriate usage, properties of copper/PEX, sizes and weights of pipe, tubing, and fittings including flared and compression types, soldering and brazing techniques for copper pipework and PEX crimp fittings. Prerequisite(s): None. Co-requisites: PLBG1104, PLBG1108, PLBG1112.

PLBG 1112 - Plastic Pipe Procedures (2 cr)

This course provides students with an understanding and skills for completing plastic piping procedures. Topics include safety, joining drainage, waste, vent, water and distribution piping, chemical usage, and applicable Minnesota State Plumbing Code for plastic piping procedures. Prerequisite(s): None. Co-requisites: BLDG1102, BLDG1106, BLDG1114, PLBG1104, PLBG1108, PLBG1110.

PLBG 1114 - Steel Pipe Procedures (3 cr)

This course provides students with an understanding and skills for completing steel pipe and corrugated stainless steel gas pipe procedures. Topics include appropriate usage, fittings, safety, tools, equipment, and skill development in cutting, threading, fabricating steel piping systems, and termination of corrugated stainless steel piping. Prerequisite(s): BLDG1102.

PLBG 1116 - Plumbing Theory/Sys (3 cr)

This course provides students with principles and experience for plumbing systems. Topics include construction and testing of sanitary drains, vent systems, and storm drains, installation of piping and fixtures for water supply, function and operation of fixtures and appliances in modern plumbing systems. Prerequisite(s): BLDG1102.

PLBG 1118 - State Plumbing Code Interpretation (1 cr)

This course provides students 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.

PLBG 1120 - Residential Plumbing Installation (3 cr)

This course provides students with practical experience in the safe installation of drain, waste, and vent piping systems, residential plumbing fixtures and appliances. Prerequisite(s): BLDG1102.

PLBG 1122 - Plumbing Repair/Service Work (2 cr)

This course provides students with practical experiences in repair, maintenance, and servicing of plumbing systems common to a variety of settings. Prerequisite(s): BLDG1102.

PLBG 1126 - Oil Burner Service Work (3 cr)

This course covers the servicing of the fuel pump, testing and servicing the fuel supply, the oil burner nozzle, basic oil burner controls, combustion testing, and adjusting the oil burner for maximum efficiency. Prerequisite(s): BLDG1102.

PLBG 1130 - Hydronic Heating System (3 cr)

This course provides students with a technical understanding of hydronic heating system design. Topics include heat loss calculations, heating systems selection and design. Prerequisite(s): BLDG1102.

PLBG 1224 - Plumbing Internship (3 cr)

This course allows plumbing students to gain valuable work experience in the plumbing and pipefitting field in conjunction with an industry placement. This three-week training program must have the endorsement of the employer and instructor. Only valid, full-time employment in the field of plumbing/pipefitting or in a closely related occupation shall be considered. Prerequisite(s): Completion of 31 credits of basic courses.

Political Science

PLSC 1101 – Introduction to Political Science (3 cr)

(Fulfills MNTC Areas: 5, 8) This course acquaints students with basic concepts of the study of government and politics. Students will examine political institutions, structures and governmental processes from a global perspective as well as the issues and ideologies that have influenced international politics during the twentieth century. Prerequisite(s): None.

PLSC 1102 - American Govern/Politics (3 cr)

(Fulfills MNTC Areas: 5, 9) This course is a study of the structure and functions of government at the national level and the relationship of the government to other social institutions and to the individual. Federalism, constitutionalism, interest groups, the media, parties and campaigns are among the topics that will be addressed. Prerequisite(s): None.

PLSC 1103 - State/Local Government (3 cr)

(Fulfills MNTC Areas: 5, 9) Governmental forms and practices among the many states and localities are compared and analyzed. Particular attention is placed upon Minnesota political structures, practices and current issues. Prerequisite(s): None.

PLSC 1181 - Student Senate (1 cr)

This course introduces students to student government and its function in a college setting. Prerequisite(s): None.

PLSC 2202 - International Relations (3 cr)

(Fulfills MNTC Areas: 5, 8) This course acquaints students with general principles and processes operating in contemporary global politics. Considerable attention is devoted to current international affairs. Prerequisite(s): None.

PLSC 2204 - Comparative Governments (3 cr)

(Fulfills MNTC Areas: 5, 8) This course is an analytical evaluation of the various structures of governments around the world including parliamentary, federated, centralized and decentralized systems. Special emphasis is placed on the manner in which these governments compare with the government of the United States. Considerable attention will be devoted to current international events. Prerequisite(s): None.

PLSC 2221 - Civil Liberties (3 cr)

(Fulfills MNTC Areas: 5, 9) This course is the history of the U.S. Constitution. Civil Liberties is a course designed to examine the relationship through time between the government and the individual as proposed under the U.S. Constitution. Topics will include freedom of expression, freedom of religion, the right to privacy, equal protection of the laws, and the right to vote. The focus of the course will include the review of U.S. Supreme Court decisions in which constitutional protections are interpreted. Prerequisite(s): None.

Practical Nursing

PNSG 1200 - Concepts of Nursing (2 cr)

This course introduces the nursing concepts of the interactive role of the practical nurse within health care. Topics covered include the nursing process, critical thinking, nurse patient interaction, documentation, admission/discharge, professional- ism, holism, cultural sensitivity in health care, self-care of the nurse, teaching and learning concepts. Prerequisite(s): HLTH1110, satisfactory assessment scores in reading, writing, and math or satisfactory completion of developmental courses.

PNSG 1202 - Nursing I (4 cr)

This course introduces the foundations of nursing care. Topics include infection and inflammatory processes, oncology, integumentary system, sterile and aseptic techniques, wound care, medication administration, fluid and electrolytes, pre- and post-op, comfort, sleep/rest, and assessment. Additionally, multisystem concepts will be considered including terminology, physiological disturbances, nursing process, nutrition, pharmacologic therapies, body chemistry, age-specific considerations, patient information giving, critical thinking, and fundamentals of professionalism. Prerequisite(s): HLTH1110, satisfactory assessment scores in reading, writing, and math or satisfactory completion of developmental courses. Pre/Co-requisites: BIOL2252, BIOL2221 (Bem, EGF, Distance), and PNSG1200.

PNSG 1204 - Nursing I Skills (3 cr)

This course includes the psychomotor skills which have widespread application to a diverse range of health problems cared for in a variety of health care settings. Skills addressed will include sterile and aseptic techniques, wound care, medication administration, fluid and electrolytes, and assessment. Additionally, multi-system concepts will be considered including terminology, physiological disturbances, nursing process, nutrition, pharmacologic therapies, body chemistry, age-specific considerations, patient information giving, critical thinking, and fundamentals of professionalism, and other related skills. Prerequisite(s): HLTH1110, satisfactory assessment scores in reading, writing, and math or satisfactory completion of developmental courses. Pre/Co-requisites: PNSG1200, PNSG1202, BIOL2252, BIOL2221 (Bem, EGF, Distance).

PNSG 1208 - Maternal Child Health (2 cr)

This course develops students' awareness of individual health needs within the family relating to maternal child health and the role of the nurse in lifespan healthcare. Prerequisite(s): Pre/Co Requisite: PNSG1200, PNSG1202, PSYC2201.

PNSG 1210 - Nursing II (5 cr)

This course develops students' awareness of nursing care. Topics include respiratory, musculoskeletal, urinary, gastrointestinal, and reproductive systems. Additionally, multi-system concepts will be considered including terminology, physiological disturbances, nursing process, nutrition, pharmacologic therapies, body chemistry, age-specific considerations, patient information giving, critical thinking, and fundamentals of professionalism. Prerequisite(s): PNSG1200, PNSG1202, and PNSG1204. Pre/Corequisite: BIOL2254.

PNSG 1212 - Nursing II Skills (1 cr)

This course includes the psychomotor skills which have widespread application to a diverse range of health problems cared for in a variety of health care settings. Skills applicable to the respiratory, musculoskeletal, urinary, and gastrointestinal systems will be addressed. Additionally, multi-system concepts will be considered including terminology, physiological disturbances, nursing process, nutrition, pharmacologic therapies, body chemistry, age-specific considerations, patient information giving, critical thinking, and fundamentals of professionalism, and other related skills. Prerequisite(s): PNSG1200, PNSG1202, and PNSG1204. Pre/Corequisite: PNSG1210.

PNSG 1214 - Nursing Pharmacology (2 cr)

This course develops students' awareness of basic pharmacological concepts, drug legislation, drug classifications, therapeutic effects, side effect, nursing considerations of medications, and dosage calculations. Drug reference utilization is included. Prerequisite(s): HLTH1110. Recommended Pre/Corequisite: BIOL2252 and BIOL2254.

PNSG 1218 - PN Clinical I (4 cr)

This course is an application of the nursing process, documentation, conceptual and foundational skills along with the role of the practical nurse in a variety of clinical settings with selected clients. The course incorporates health theories as related to the needs of the clients in the role of prevention, promotion, and restoration. Prerequisite(s): PNSG1200, PNSG1202, PNSG1204, and current Healthcare Provider/Professional Rescuer CPR C Certification. Pre/Corequisite: PNSG1210, PNSG1212.

PNSG 1220 - Psychosocial Nursing (3 cr)

This course develops students' awareness of the role of the practical nurse and the application of theories related to coping and adaptations, stress/crisis, therapeutic communication, mental health and illness, grief/loss, death and dying, and individuals with delayed developments throughout the lifespan. Prerequisite(s): HLTH1110. Pre/Corequisite: PNSG1200, PSYC2201.

PNSG 1222 - Nursing III (4 cr)

This course develops students' awareness of lifespan health promotion. The systems included are cardiovascular, immune, hematological, neuro/sensory, and endocrine. Prerequisite(s): BIOL2254. Note: PNSG1210 and PNSG1222 may not be taken in the same semester.

PNSG 1228 - PN Clinical II (5 cr)

This course is a continuation and advancing application of the nursing process, documentation, conceptual, foundational, and technical skills along with the role of the practical nurse in a variety of clinical settings with selected clients. The course incorporates health theories as related to the needs of the clients in the role of prevention, promotion, and restoration of health. Prerequisite(s): PNSG1218. Pre/Co-requisites: PNSG1222.

PNSG 1232 - Advanced IV Therapy (1 cr)

This course focuses on the skills and knowledge needed by the practical nurse in areas of advanced intravenous therapy. This course provides a minimum of four hours of supervised practice in the college lab setting. Course information is presented through the use of lecture notes and college lab demonstration. Evaluation of students' objective mastery and skills competency will be achieved through students' successful completion of assignments, tests, and return demonstration. Prerequisite(s): PNSG1218, or current nursing licensure.

PNSG 1234 - Nursing Roles (1 cr)

This course is an overview of nursing within health care. Topics covered include healthcare trends, legal aspects, ethical issues, leadership characteristics, the role of the Board of Nursing, reality shock, nursing professionalism, and other topics integral to the role of the nurse.
Prerequisite(s): HLTH1110.

PNSG 1250 - Intro Practical Nursing (1 cr)

This course introduces the student to critical thinking, decision making, and priority setting skills that are essential for the success of a practical nurse. Additional topics covered will be nutrition and growth and development across the life span.
Prerequisite(s): Pre-requisites: Acceptance into the NCTC Practical Nursing Program, HLTH1106, HLTH1110, MATH1003, BIOL2252, BIOL2254, ENGL1111. Co-requisites: PNSG1254, PNSG1258, PNSG1262, PNSG1266.

PNSG 1254 - Nursing Foundations (4 cr)

This course provides an introduction to theoretical foundation for focused assessment and nursing skills to diverse populations. The student is given an opportunity to demonstrate these skills in the laboratory setting. An introduction to the nursing process provides the student with a beginning framework for decision making. The key concepts of teamwork and collaboration, safety, quality improvement, professional identity /behavior, client/relationship centered care, nursing judgment/evidence based practice, managing care of the individual client skills, and informatics/technology are introduced. The skills included are: vital signs, oxygen saturation, focused physical assessment, infection control, and documentation. Prerequisite(s): Prerequisites: Admission to NCTC Practical Nursing Program, BIOL2252, BIOL2254, ENGL1111, HLTH1110, HLTH1106, MATH1003. Co-requisites: PNSG1250, PNSG1258, PNSG1262, PNSG1266.

PNSG 1258 - Psychosocial (2 cr)

This course introduces the students to concepts of mental health and illness. Topics covered include therapeutic communication, and maladaptive behaviors related to psychiatric, emotional, and mental disorders. Prerequisite(s): Prerequisites: Acceptance into NCTC Practical Nursing Program, HLTH1110, HLTH1106, MATH1003, BIOL2252, BIOL2254, ENGL1111. Co-requisites: PNSG1250, PNSG1254, PNSG1262, PNSG1266.

PNSG 1262 - Nursing Concepts I (5 cr)

This course introduces the health/illness concepts the Practical Nursing (PN) curriculum is based on, and the nursing concepts utilized in the provision of basic nursing care to a diverse population. The course incorporates the nursing process and evidenced based care. Application of pathophysiology, nutrition and pharmacology are applied to specific exemplars. Concepts included are fluid and electrolytes/acid base balance, gas exchange, perfusion, immunity/inflammation/infection, tissue integrity, elimination, mobility, sensory perception/intracranial pressure, metabolism/hormone regulation and client education/promotion. Introductory exemplars related to nursing care are addressed within each concept. Skills included are: blood glucose monitoring, medication administration, circulatory checks, specimen collection, wound care and/or dressing change, irrigation of eyes/nose/ears, insert/maintain/remove urinary catheter, ostomies, set up sterile field, and catheter irrigation. Prerequisite(s): Prerequisites: Admission to NCTC Practical Nursing Program, BIOL2252, BIOL2254, ENGL111, HLTH1106, MATH1003, HLTH1110. Co-requisites: PNSG1250, PNSG1254, PNSG1258, PNSG1266.

PNSG 1266 - Clinical Care I (1 cr)

This course creates an opportunity to provide safe and efficient care within the scope of practice for practical nursing. Students will apply the foundational nursing concepts utilized in the provision of basic nursing care to a diverse population. The course incorporates the nursing process and evidenced based care. Students are expected to apply knowledge and skills gained from required previous courses to the clinical setting. Prerequisite(s): Prerequisites: Admission to NCTC Practical Nursing Program, BIOL2252, BIOL2254, ENGL1111, HLTH1110, HLTH1106, MATH1003, Current Healthcare Provider/Professional Rescuer CPR. Co-requisites: PNSG1250, PNSG1254, PNSG1258, PNSG1262.

PNSG 1270 - Transition to Practice (1 cr)

This course provides students with an overview of the scope of nursing practice within health care systems. Focused areas include: professionalism, healthcare organizations, leadership, National Council Licensing Exam Practical Nursing (NCLEX-PN) preparation, and resume development. Transition to the graduate practical nursing role and continuing education will also be incorporated. Prerequisite(s): Prerequisites: PNSG1250, PNSG1254, PNSG1258, PNSG1262, PNSG1266. Co-requisites: PNSG1274, PNSG1278, PNSG1282, PNSG1286.

PNSG 1274 - Maternal / Newborn (1 cr)

This course develops students' awareness of individual health needs relating to maternal-newborn health and the role of the nurse in healthcare. Focus areas will be on pregnancy and immediate needs of the newborn through thirty days of age. Prerequisite(s): Prerequisites: PNSG1250, PNSG1254, PNSG1258, PNSG1262, PNSG1266. Co-requisites: PNSG1270, PNSG1278, PNSG1282, PNSG1286.

PNSG 1278 - Invasive Nursing Therapies (2 cr)

This course focuses on the skills and knowledge needed by the practical nurse in areas of advanced invasive therapies. Course information is presented through the use of assigned readings, lectures and demonstrations. Evaluation of students' objective mastery and skills competency will be achieved through students' successful completion of assignments, tests, and return demonstration. Skills included are: IV skills (insertion, maintenance, removal, medications), NG, feeding tubes, and enteral tubes. Prerequisite(s): Prerequisites: Current LPN licensure or (PNSG125, PNSG1254, PNSG1258, PNSG1262, PNSG1266). Co-requisites: PNSG 1270, PNSG1274, PNSG1282, PNSG1286.

PNSG 1282 - Nursing Concepts II (6 cr)

This course builds on the foundational knowledge gained from prerequisite nursing courses. Outcomes focus on expanding students' knowledge and exposing them to concepts of increased complexity. The course incorporates the nursing process and evidenced based care. Application of pathophysiology, nutrition and pharmacology are applied to specific exemplars. Concepts included are: fluid and electrolytes/acid base balance, gas exchange, perfusion, immunity/inflammation/infection, tissue integrity, elimination, mobility, metabolism/hormone regulation, sensory perception/intracranial pressure, reproductive, cellular regulation, and client education/promotion. Advanced exemplars related to nursing care are addressed within each concept. Skills included are: chest tube drainage, care for client with trach, wound drainage, remove wound/suture/staples/drainage devices, and neuro checks. Prerequisite(s): Prerequisites: PNSG1250, PNSG1254, PNSG1258, PNSG1262, PNSG1266. Co-requisites: PNSG1270, PNSG1274, PNSG1278, PNSG1286.

PNSG 1286 - Clinical Care II (5 cr)

This course creates an opportunity to provide safe and efficient care within the scope of practice for practical nursing. Experiences in the clinical setting are designed to promote, maintain, and restore optimal health for individual clients across the life span with basic to complex health care needs in a variety of settings. Students will assist with caring for clients in a diverse population. The course incorporates the nursing process, and applies nursing judgment and evidenced based care. Students will apply knowledge and skills gained from required courses to the clinical setting. Prerequisite(s): Prerequisites: PNSG1250, PNSG1254, PNSG1258, PNSG1262, PNSG1266, Current Healthcare Provider/Professional Rescuer CPR. Co-requisites: PNSG1270, PNSG1274, PNSG1278, PNSG1282.

Psychology

PSYC 1105 - Intro to Psychology (3 cr)

(Fulfills MNTC Area: 5) This course is an introduction and overview of the field of psychology. It will cover the history and contemporary research in the field. The course will also examine the biological, psychological, and social aspects of human behavior. Prerequisite(s): None.

PSYC 2201 - Developmental Psychology (3 cr)

(Fulfills MNTC Area: 5) This class studies the physical, behavioral, and emotional development of the individual through the life span, with a focus on the theories and stages of development. This course is open to all students. Prerequisite(s): PSYC1105 is strongly recommended prior to enrolling in this course.

PSYC 2215 - Abnormal Psychology (3 cr)

(Fulfills MNTC Area: 5) This course provides an examination of major personality maladjustment and disorganization with primary emphasis on causes, diagnostic criteria, and treatment approaches. Prerequisite(s): PSYC1105 or PSYC2201.

Physical Therapy Assistant

PTAS 1101 - Introduction to PTA (3 cr)

This course introduces the student to the field of Physical Therapy by covering the history, legalities and ethics of the profession as they relate to the healthcare system. The role/responsibilities of physical therapists and physical therapist assistants, development of the team approach in health care delivery, philosophies of rehabilitation, patient relationships, and the psychosocial impact of disability will be covered. The scope of practice of the physical therapist assistant and physical therapy documentation is emphasized. Prerequisite(s): Admission into PTA Program.

PTAS 1105 - Fundamentals of PTA (4 cr)

In this course, students are provided a foundation in physical therapy assessment, interventions and basic

patient care skills including vital signs, transfer training, and gait training. Students will have laboratory time to apply, practice, and demonstrate the technical skills taught. Prerequisite(s): Admission into PTA Program.

PTAS 1108 - PTA Pathophysiology (2 cr)

This course focuses on common disorders and diseases affecting the body's organ systems. Etiology, diagnosis, signs, symptoms, common lab values, and implications for physical therapy treatment will be included. Students will also have an interprofessional opportunity to discuss a patient case study with other healthcare students. Prerequisite(s): BIOL2252, PTAS1101, PTAS1105.

PTAS 1110 - Physical Agents (4 cr)

This course prepares the student for safe and effective application of physical agents for patient treatment. Mechanisms of action, indication, precautions, contraindications, and treatment procedures will be covered for the following: superficial heat, cryotherapy, external compression, ultrasound, biofeedback, massage, traction, hydrotherapy, and electrical stimulation. Pain, skin assessment, and wound care using electrotherapy will also be included. Prerequisite(s): BIOL2252, PTAS1101, PTAS1105.

PTAS 1114 - Clinical Kinesiology (3 cr)

Building upon Anatomy and Physiology I, this course provides a basic understanding of normal human body movement as related to skeletal, articular, neurological, and muscular systems. Biomechanical principles related to human movement, manual muscle testing, and goniometry will also be addressed. Prerequisite(s): BIOL2252, PTAS1101, PTAS1105.

PTAS 1116 - Therapeutic Exercise I (2 cr)

This course studies the physiological effects of exercise on the musculoskeletal, cardiovascular, and pulmonary systems. Physical therapy interventions to improve strength, balance, and flexibility are demonstrated, applied, and practiced in lab. Prerequisite(s): BIOL2252, PTAS1101, PTAS1105.

PTAS 1118 - Clinical Skills Review (1 cr)

This course is intended to enhance clinical problem-solving and provide an opportunity for students to practice skills with instructor guidance and feedback through patient scenarios. This elective course can be taken for a variety of reasons: review of previous course skills; review or practice of new/concurrent course skills; enhancement of clinical problem solving; program re-entry, or a program plan of action. This course can be repeated up to a maximum of 3 credits. Prerequisite(s): Currently enrolled in PTA program.

PTAS 1120 - Clinical Introduction (1 cr)

Knowledge, skills, and attitudes learned during technical courses will be applied to direct patient/client management in selected outpatient and long term care settings during a 48-hour part time clinical experience. This course integrates Physical Therapist Assistant (PTA) coursework with the objective of students providing quality care with uncomplicated patients and a high degree of supervision and guidance. Prerequisite(s): PTAS1101, PTAS1105, evidence of current CPR certification.

PTAS 1130 - Clinical Education I (4 cr)

Skills, knowledge and attitudes learned in all first year Physical Therapist Assistant (PTA) courses will be applied to direct patient care in selected clinical settings over a full-time four week and four day period. Emphasis will be placed on the clinical application and integration of the knowledge and skills learned during the first year of the PTA program with the objective of students providing quality care with uncomplicated to complex patients and a degree of supervision and guidance that will vary with the complexity of the patient or the environment. Prerequisite(s): PTAS1120.

PTAS 2101 - Orthopedics for PTA (2 cr)

This course focuses on orthopedic injuries/disorders, musculoskeletal tissue healing, and related physical therapy interventions. Prerequisite(s): PTAS1130.

PTAS 2105 - Neurology for PTA (5 cr)

This course provides information, discussion, and treatment considerations for neurologically based diagnoses. Neurological interventions, exercise programs, and treatment progressions will be applied in lab scenarios with a variety of neurological diagnoses. This course also presents normal physical, cognitive, social, and emotional developmental processes which affect an individual throughout the life span with an emphasis on integrating aspects of human development

to the field of physical therapy. Prerequisite(s): PTAS1130.

PTAS 2111 - Therapeutic Exercise II (3 cr)

This course presents more advanced forms of therapeutic exercise and physical therapy interventions such as cardiac rehab, soft tissue mobilization, taping, and balance training. Exercise programs for special populations, such as oncology and geriatrics, will also be included. Prerequisite(s): PTAS1130.

PTAS 2115 - Advanced Techniques (4 cr)

Theory and usage of advanced physical therapy interventions is the focus of this course. Interventions such as postural drainage, rehabilitation for amputations, spinal stabilization, and work hardening will be presented. Specific interventions for women's health will also be discussed. Prerequisite(s): PTAS1130.

PTAS 2125 - PTA Ethics and Issues (2 cr)

This course includes ethical and legal issues regarding physical therapy, basic principles of management, supervisory processes, healthcare reimbursement, and quality assurance activities including chart audits. Prerequisite(s): PTAS1130.

PTAS 2140 - Clinical Education II (5 cr)

Skills, knowledge and attitudes learned in all Physical Therapist Assistant (PTA) courses will be applied to direct patient care in selected clinical settings over a full-time six week period. Emphasis will be placed on the clinical application and integration of the knowledge and skills learned during the PTA program with the objective of students providing quality care with uncomplicated to complex patients and a degree of supervision and guidance that will vary with the complexity of the patient or the environment. Prerequisite(s): PTAS2101, PTAS2105, PTAS2111, PTAS2115, PTAS2125.

PTAS 2150 - Clinical Education III (5 cr)

Skills, knowledge and attitudes learned in all Physical Therapist Assistant (PTA) courses will be applied to direct patient care in selected clinical settings over a six week period. Emphasis will be placed on the clinical application and integration of the knowledge and skills learned during the PTA program with the objective of students providing quality care with uncomplicated to complex patients and a degree of supervision and guidance that will vary with the complexity of the patient or the environment. Students are expected to be responsible for patient care compatible to the role and entry level skills of the PTA. Prerequisite(s): PTAS2101, PTAS2105, PTAS2111, PTAS2115, PTAS2125.

PTAS 2160 - Professional Integration (3 cr)

Lecture and discussion will incorporate students' experiences from Physical Therapist Assistant (PTA) Clinic Education II and III. All aspects of patient care will be addressed and case study presentations will be utilized to facilitate problem solving skills. Prerequisite(s): PTAS2101, PTAS2105, PTAS2111, PTAS2115, PTAS2125.

Radiologic Technology

RADT 1105 - RADT Re-evaluation 1-5cr (5 cr)

This course is designed to train and evaluate the preparedness of a program student to return to the program after an extended absence. Prerequisite(s): Acceptance into Radiologic Technology program.

RADT 1110 - Intro Rad Tech/Pat Care (3 cr)

This course covers an introduction to the career of Radiologic Technology including credentialing requirements, ethics and professionalism associated with the field. The course will cover the basics of radiation protection, radiographic quality and equipment associated with common radiographic procedures. Basics of patient care will be covered which will include vital signs assessment, aseptic technique, medical emergencies, and basic pharmacology. Ethical behavior and ethical issues in healthcare will also be covered. Prerequisite(s): None.

RADT 1114 - Radiographic Proc I (4 cr)

This course provides students with the knowledge necessary to perform radiographic procedures relative to the thoracic and abdominal organs, upper extremities, lower extremities, shoulder girdle and pelvic girdle. The function and related procedures of the digestive and hepatobiliary systems will also be covered. Emphasis will be on radiographic terms, anatomy, positioning, manipulation of radiographic equipment and accessories, and related patient care considerations. Prerequisite(s): Acceptance into

Radiologic Technology program. BIOL2252, CHEM1020, ENGL1111, HLTH1106, MATH1110.

RADT 1119 - Clinical Radiography I (5 cr)

This course is the first clinical component of five. The student is assigned to a variety of clinical education sites to provide opportunities to apply the basic theoretical principles of radiography and patient care to the practical experience in the clinical setting. Students will assist and perform radiographic procedures covered in RADT1114, under the direction of a qualified radiographer. The student will develop professional attributes with patients and the healthcare team and apply work ethics in the clinical setting. The radiography program faculty monitors the progress and performance of students with weekly evaluations and competency assessments. Prerequisite(s): Acceptance into Radiologic Technology program. BIOL2252, CHEM1020, ENGL1111, HLTH1106, MATH1110.

RADT 1122 - Radiographic Physics (3 cr)

This course presents the basic principles that govern radiation physics. Topics include a historical review of the development of imaging technologies, the nature of electromagnetic radiation, atomic structure, x-ray production and interactions of x-rays with matter. An introduction to the major components of modern x-ray equipment design and operation as it relates to the control of x-ray beam characteristics will be discussed. This course is designed to provide a foundation of knowledge regarding the principles that govern radiographic technique, patient exposure and image quality can be built. Prerequisite(s): BIOL2252, CHEM1020, ENGL1111, HLTH1106, MATH1110

RADT 1124 - Radiographic Proc II (4 cr)

This course provides students with the knowledge necessary to perform radiographic procedures relative to the urinary system, the bony thorax, skull and facial bones, sinuses and the vertebral column. Emphasis will be on radiographic terms, anatomy, positioning, manipulation of radiographic equipment and accessories, and patient care considerations related to radiography of the urinary system, bony thorax, and vertebral column. This course will cover techniques of venipuncture and the administration of contrast media as it relates to imaging the urinary system. Prerequisite(s): RADT1119.

RADT 1127 - Image Production & Eval (3 cr)

This course provides students with knowledge of the factors that control and influence image quality. Topics include the components of digital imaging as they relate to image formation, and display. The principles of exposure that affect image quality and the criteria for evaluating these factors will be presented. Students will be introduced to image processing and acquisition errors that affect image quality and technical factors associated with controlling patient exposure. Prerequisite(s): RADT1119.

RADT 1128 - Clinical Radiography II (5 cr)

This course is the second clinical component of five. The student is assigned to a variety of clinical education sites providing opportunities to progress with exam competencies. The student continues to demonstrate proficiency in competencies from Clinical I and proficiency in selection of radiographic technique, patient care, radiation protection, general radiographic procedures and image evaluation. The student develops competencies in exams covered in RADT1124. Students will be assigned weekend and p.m. shift work which provides opportunity to assist and perform trauma/mobile procedures and enables them to assess the various shift atmospheres. Clinical experience with pediatric and trauma procedures is strongly encouraged to promote proficiency as the student progresses. The development of critical thinking and problem solving skills are expected. The student demonstrates professional attributes with patients and the healthcare team and applies work ethics in the clinical setting. The radiography program faculty monitors the progress and performance of students with weekly evaluations and competency assessments. Prerequisite(s): RADT1119.

RADT 1135 - Advanced Imaging (2 cr)

This course introduces students to mobile fluoroscopic procedures in the surgical setting. Emphasis will include c-arm equipment components, manipulation and operation, safety practices and working in the sterile environment. In addition, content of this course is designed to introduce imaging modalities and treatment. Topics discussed will include equipment basics, procedural preparations, types of radiations and dose differences as well indications for performance of the imaging procedures. A review of body systems previously covered as they relate to modalities will be included. This course is designed to provide students with a foundation of knowledge in preparation for

scheduled observations in the clinical setting. Pathways for educational and certification requirements for modalities will be discussed. The advanced imaging content areas covered include: Surgical imaging, Nuclear medicine (NM), Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), Sonography, Mammography, Radiation Therapy, Angiography, and Bone Densitometry. Prerequisite(s): RADT1128.

RADT 1138 - Clinical Radiography III (6 cr)

This course is the third clinical component of five. The student is assigned to a variety of clinical education sites to provide opportunities to maintain proficiency in completed competencies as well as progress with additional competencies. Demonstration of increased proficiency, accuracy and efficiency in routine radiographic procedures is expected. The student demonstrates competency in radiographic technique, patient care, radiation protection, general procedures and image evaluation. Increased proficiency in critical thinking and problem solving skills are expected. Students will be assigned weekend and p.m. shift work, providing opportunity to enhance their skills in trauma/mobile radiography. Students will start rotation(s) in interventional radiography and computed tomography. The student demonstrates professional attributes with patients and the healthcare team and applies work ethics in the clinical setting. The radiography program faculty monitors the progress and performance of students with weekly evaluations and competency assessments. Prerequisite(s): RADT1128.

RADT 2217 - Imaging Equipment / QA (3 cr)

This course covers content that will provide students with an understanding of the components, principles and operation of digital systems. Factors that impact image acquisition, display, archiving and retrieval will be discussed. In addition, content related to special imaging methods of fluoroscopy, tomography and mobile radiography will be discussed. Students will gain understanding of the display, archival and retrieval systems associated with digital imaging and communication. The principles of quality control measures will be discussed, to include common quality control testing for imaging equipment and accessories. Prerequisite(s): RADT1138.

RADT 2218 - Clinical Radiography IV (8 cr)

This course is the fourth clinical component of five. This clinical course provides students the opportunity to function more independently in all areas of radiography. Students will demonstrate enhanced learning in previously completed competencies with continuing experience in trauma/mobile radiography, and pediatric work. Students will demonstrate the ability and desire to work more independently while adhering to program and professional ethical guidelines. Emphasis is placed on increasing proficiency in trauma and mobile radiography as well as c-arm procedures. Students will be assigned weekend and p.m. shift work which will continue to provide experiences with trauma/mobile radiographic procedures. Students will be provided the opportunity to rotate within additional modalities to gain knowledge of the basics with imaging equipment and procedures in such modalities. Prerequisite(s): RADT1138.

RADT 2220 - Radiation Biology/Protect (2 cr)

This course is a study of radiation exposure to biologic tissue. Consideration is given to factors affecting cell response to acute and chronic radiation exposure. Principles of radiation protection and responsibilities of the radiographer are presented. Effective dose limits and regulatory policies are also discussed. Prerequisite(s): RADT2218.

RADT 2228 - Clinical Radiography V (7 cr)

This is the final clinical course of the program. This course emphasizes student independence, discretion, and judgment while performing required exam competencies. Students demonstrate work-readiness skills in all aspects of exam performance and patient care. Program faculty evaluates students for assurance of all completed competencies as outlined in the American Registry of Radiologic Technologists (ARRT) clinical requirements. Prerequisite(s): RADT2218.

RADT 2234 - Radiographic Pathology (2 cr)

This course provides students with the concepts of disease and its effects on the human body. Pathology and diseases as they relate to various radiographic procedures and radiographs will be discussed. Prerequisite(s): RADT1138.

RADT 2240 - Registry Prep (2 cr)

This course is a review of the American Registry of Radiologic Technologists (ARRT) registry content

specifications designed to prepare students for the national certification exam. Students will analyze their learning through class activities as well as mock registry exams. Prerequisite(s): RADT2218.

Respiratory Therapist

RESP 1104 - Non Acute Resp Care (4 cr)

This course includes cognitive concepts and psychomotor skills in the areas of gas physics, gas therapy, humidity/aerosol/bronchial hygiene therapy, and respiratory pharmacology. Prerequisite(s): ENGL0095, MATH0090, or equivalent Accuplacer scores.

RESP 1110 - Adult Critical Care (4 cr)

This course includes cognitive concepts and psychomotor skills in the areas of airway management, arterial blood gases, noninvasive ventilation, and mechanical ventilation. This course will also include how to perform literature searches on related critical care topics in mechanical ventilation and how to prepare a literature review paper. Prerequisite(s): RESP1104, RESP1120, RESP1126.

RESP 1120 - Cardio Physiology/Assess (3 cr)

This course is designed to present basic cardiopulmonary assessment focusing upon the adult respiratory anatomy and physiology, system integration which allows for maintenance of and homeostasis. Also included is the study of oxygenation, lung mechanics and ventilation, pulmonary function testing, electrocardiogram (ECG) interpretation and arterial blood gases (ABG) interpretation. Prerequisite(s): ENGL0095, MATH0090, or equivalent Accuplacer scores.

RESP 1126 - Clinical I (1 cr)

This is a beginning clinical course that provides supervised instructional experience in the clinical setting. It is designed to apply knowledge acquired in the classroom and laboratory to the development and performance of competencies associated with professionalism, medical gas administration, aerosol therapy, hyperinflation therapy, bronchial hygiene, and respiratory pharmacology. Prerequisite(s): ENGL0095, MATH0098, or equivalent Accuplacer scores.

RESP 2207 - Clinical II (2 cr)

This course provides supervised instructional experience in the clinical setting. It is designed to apply knowledge acquired in RESP 1104 & 1110 to the development, performance and computerized documentation of competencies associated with medical gas administration, aerosol therapy, hyperinflation therapy, bronchial hygiene, and respiratory pharmacology, airway management, infection control, noninvasive ventilation and to further develop competencies acquired in RESP 1126. Prerequisite(s): RESP1104, RESP1120, RESP1126.

RESP 2211 - Clinical III (2 cr)

This course provides supervised instructional clinical. It is designed to apply and maintain knowledge acquired in the classroom and laboratory to the development and performance of final/summative level competencies associated with medicated aerosol therapy, medical gas administration, infection control, patient chest assessment, bronchial hygiene, airway management and cardiopulmonary diagnostics. Prerequisite(s): RESP1110, RESP2208.

RESP 2212 - Diagnostic Procedures (3 cr)

This course includes introductory cognitive concepts and laboratory skills in pulmonary function testing, airflow measurement, arterial blood gas analysis, and chest radiography interpretation as well as preparation of a publishable paper. Prerequisite(s): CHEM1020, RESP2242.

RESP 2236 - Neonatal Resuscitation Pr (1 cr)

This course follows the course standards of the American Academy for Pediatrics for Neonatal Resuscitation Program (NRP). The course leads to the awarding of a certificate of successful completion. Prerequisite(s): RESP2242, RESP2250, RESP2252.

RESP 2242 - Neo/Peds Critical Care (4 cr)

This course includes the cognitive and psychomotor concepts necessary for performance of the Respiratory Care Practitioner in the areas of neonatal and pediatric patient care. Areas of focus include the use of case study scenarios in the application of assessment skills, respiratory care diagnostics and therapies. Prerequisite(s): MATH1110, RESP1104.

RESP 2244 - Integrated Pract I (1 cr)

This supervised instructional lab course is designed to teach and promote Final/Summative level skills in routine and critical care patient assessment, therapy recommendations and modifications, mechanical ventilation and hemodynamic monitoring competencies associated with patient respiratory care skills acquired in Internship I. Prerequisite(s): CHEM1020, RESP2242.

RESP 2246 - Neonatal Internship I (1 cr)

This is as hospital preceptor supervised instructional internship intended to allow the student to practice and promote independent lab skills in the neonatal intensive care unit practicing patient assessment, therapy recommendations and modifications, mechanical ventilation and care of the critically ill neonatal patient. Prerequisite(s): CHEM1020, RESP2242.

RESP 2250 - Internship I (5 cr)

This course provides the student with an expanded hospital preceptor supervised clinical internship. This clinical experience provides for the assurance of proficiency in gas therapy, airway care, basic patient assessment, bronchial hygiene procedures, and mechanical ventilation procedures using electronic medical record charting. In addition, students assist the physician with special procedures and accompany the medical director on daily patient rounds. Prerequisite(s): RESP2211.

RESP 2252 - Advanced Critical Care (4 cr)

This course explores the role of the Respiratory Care Practitioner in caring for the advanced critical care patient. Emphasis will be placed upon the assessment and care of the intensive care unit (ICU) patient. Prerequisite(s): MATH1110, RESP2211.

RESP 2254 - Internship II (5 cr)

This is as hospital preceptor supervised clinical internship. This clinical experience provides for the assurance of proficiency in gas therapy, airway care, basic patient assessment, bronchial hygiene procedures, and mechanical ventilation procedures using electronic medical record charting. In addition, students assist the physician with special procedures and accompany the medical director on daily patient rounds. Prerequisite(s): RESP2250, RESP2252.

RESP 2260 - Neonatal Internship II (1 cr)

This is as hospital preceptor supervised instructional internship intended to allow the student to practice and promote independent lab skills in neonatal intensive care unit practicing patient assessment, therapy recommendations and modifications, mechanical ventilation and care of the critically ill neonatal patient. Prerequisite(s): RESP2250, RESP2252.

RESP 2262 - Internship III (3 cr)

This is as hospital preceptor supervised instructional internship intended to allow the student to practice and promote independent lab skills and attributes characteristic of a professional respiratory care practitioner in the adult critical care and surgical setting; neonatal and pediatric or other chosen specialty area. Prerequisite(s): RESP2212, RESP2254.

RESP 2264 - Integrated Pract II (1 cr)

This supervised instructional lab course is designed to teach and promote Final/Summative level skills, focusing on critical care patient assessment, therapy recommendations and modifications, mechanical ventilation and hemodynamic monitoring competencies associated with patient respiratory care skills acquired in Internship II. Prerequisite(s): RESP2212, RESP2244, RESP2246, RESP2252.

RESP 2276 - Adv Prac Registry Review (3 cr)

This course is designed to provide the advanced practitioner students with an opportunity to review, demonstrate and document their summative mastery of the cognitive areas relating to the Advanced Respiratory Care Practitioner. Students' assessment skills will be needed to recommend diagnostic tests and special procedures, evaluate recommended tests and procedures, and recommend modifications. Prerequisite(s): CHEM1020, RESP2242, RESP2250, RESP2252.

RESP 2278 - Patient Ed & Wellness (2 cr)

This course includes cognitive concepts and affective skills required to be certified and perform patient education in the in-patient and out-patient healthcare

environments. Prerequisite(s): RESP2212, RESP2244, RESP2250, RESP2252

Sociology

SOCI 1101 - Intro to Sociology (3 cr)

(Fulfills MNTC Areas: 5, 7) This course introduces students to the sociological perspective and the basic concepts of sociology to enhance understanding of the larger society and its influence on the individual. Prerequisite(s): None.

SOCI 1102 - Social Problems in US (3 cr)

(Fulfills MNTC Areas: 5, 7) Contemporary social problems in the United States are examined from a variety of theoretical and value perspectives in relation to our society. Prerequisite(s): None.

SOCI 1107 - Intro Criminal Justice (3 cr)

(Fulfills MNTC Areas: 5, 9) This course is an introduction to the American Criminal Justice System, including the police, courts, and correctional systems. Minnesota Peace Officer Standards and Training (POST) objectives are included in each learner outcome (P.O). Prerequisite(s): None.

SOCI 2212 - Sex, Gender & Society (3 cr)

(Fulfills MNTC Areas: 5, 7) This course is a critical evaluation of the social construction of gender and the resulting inequality. The relationship of sex and gender, past and present theories of difference, and social movements will be analyzed. Particular emphasis is placed on developing an awareness of the effect of traditional and changing gender roles in understanding social relationships and related phenomena. Prerequisite(s): None.

SOCI 2215 - Criminology (3 cr)

(Fulfills MNTC Areas: 5, 9) The course includes the study of crime as a form of deviant behavior, the nature and extent of crime, and the past and present theories of crime. Prerequisite(s): None.

SOCI 2220 - Intimacy, Family & Divers (3 cr)

(Fulfills MNTC Areas: 5, 7) This is a basic course in diversity and changes in intimacy, courtship, dating, marriage, and family life, and the family as a social institution. A primary objective of this course is to provide students with factual and cross-cultural information relevant to human behavior in intimate relationships. Prerequisite(s): None.

Spanish

SPAN 1101 - Beginning Spanish I (4 cr)

(Fulfills MNTC Area: 8) This course introduces the basic elements of the Spanish Language. It includes practice in pronunciation, listening comprehension, elementary conversation, grammar, reading, writing and culture. It provides students with practical vocabulary in culturally authentic contexts and activities and cultural materials that emphasize communicative and cultural competency. Prerequisite(s): None.

SPAN 1102 - Beginning Spanish II (4 cr)

(Fulfills MNTC Area: 8) This course introduces the basic elements of the Spanish Language. It includes practice in pronunciation, listening comprehension, elementary conversation, grammar, reading, writing and culture. It provides students with practical vocabulary in culturally authentic contexts and activities and cultural materials that emphasize communicative and cultural competency. Prerequisite(s): SPAN1101, or instructor approval.

SPAN 1120 - Hispanic Cultures (3 cr)

(Fulfills MNTC Areas: 6, 10) This course is a comparative study of Hispanic cultures and societies exploring geographical, historical, environmental, and religious issues, as well as the regional customs and interpersonal relations of the Hispanic world. This course is taught in English. Prerequisite(s): None.

SPAN 2201 - Intermed Spanish I (4 cr)

(Fulfills MNTC Area: 8) This course is a comprehensive review of oral and written Spanish, including a study of Spanish literature, music, the fine arts and other cultural information relating to the target language. Prerequisite(s): SPAN1102, or instructor approval.

SPAN 2202 - Intermed Spanish II (4 cr)

(Fulfills MNTC Area: 8) This course is a comprehensive review of oral and written Spanish, including a study of Spanish literature, music, the fine arts and other

cultural information relating to the target language. Prerequisite(s): SPAN2201, or instructor approval.

SPAN 2222 - Spanish for Professions (3 cr)

This is a course in conversational Spanish for the workplace. Students will learn vocabulary specific to their field of study and basic grammatical concepts to support the development of conversational skills in Spanish. Students will also practice non-verbal communication skills as a tool for cross-cultural communication. Prerequisite(s): None.

Speech

SPCH 1101 - Intro to Public Speaking (3 cr)

(Fulfills MNTC Areas: 1, 2) This course increases students' skills in oral communication of thoughts to an audience. It includes the selection and evaluation of topics and source materials for public speaking, the composition and organization of speech, and effective presentation techniques. Prerequisite(s): None.

SPCH 1103 - Interpersonal Communication (3 cr)

(Fulfills MNTC Areas: 1, 2) This course introduces the techniques necessary for effective one-to-one and small group communication. Topics included are communication principles and processes, self-concept, perception, emotions, verbal and nonverbal communication, listening and feedback skills, assertiveness, conflict resolution, interpersonal relationships, gender and cultural influences. Prerequisite(s): None.

SPCH 1111 - Small Group Communication 3 cr)

(Fulfills MNTC Area: 1) This course explores both practical and theoretical aspects of small group communication. Students will learn about group roles, leadership, non-verbal communication, listening, presentations, group cohesion, and information flow. Skill building applications may include shop floor communication, shared office environment, focus groups, work teams, and committees. Prerequisite(s): None.

SPCH 2201 - Oral Interp Literature (3 cr)

(Fulfills MNTC Area: 6) This course introduces students to techniques of oral interpretation of literature and to convey to an audience both the intellectual and emotional content of the various literacy forms, including expository and narrative prose, poetry, and drama, with an emphasis on the performance of the work. Prerequisite(s): None.

SPCH 2205 - Intercultural Communication (3 cr)

(Fulfills MNTC Areas: 7, 8) The course is a study of the attitudes, beliefs, and values of people in intercultural/multicultural communication. The course cultivates, promotes, and increases understanding and acceptance of people outside one's own immediate culture. This course reflects the expanding global marketplace/village, with all of its challenges for communicators and is appropriate to students in any field of study. Prerequisite(s): None.

Special Topics

SPTC 1111 - Special Topics (3 cr)

Special topics is a course that addresses a current or timely topic, that is known to be a one-time offering, or a course that is in a pilot phase before being offered on an ongoing basis. The Special Topics course offerings can vary from term to term. Special topics courses may be team taught. Prerequisite(s): None.

General Courses

SSCI 1101 - Human Relations (3 cr)

This course allows students to gain an awareness of and improve upon personal and professional relationships, especially those appropriate to the workplace. This course also examines students' current levels of self-awareness, communication skills, and abilities to adapt to a dynamic workforce. Students will assess their abilities to prevent or resolve conflicts, to gain self-efficacy, and their skills to form and to maintain healthy, productive, and professional relationships needed to contribute to their career success and quality of life they envision for themselves. The self-awareness and self-growth gained in this course will allow students to make decisions that are right for them in terms of needs, goals, values, and career success. Prerequisite(s): None.

Surgical Technology

SURT 1102 - Intro to Surgical Tech (2 cr)

This introductory course orients the learner to the Surgical Technology profession and develops the fundamental concepts and principles of the role of the

surgical technologist in the operating room. Areas of focus include general aspects of professional behavior, role, and aspects of the physical environment, universal precautions, instruments, aseptic technique, operating room design, the surgical team, surgical pharmacology, anesthesia and patient care concepts. Prerequisite(s): None.

SURT 2200 - ST Skills Revalidation (2 cr)

This course is designed to train and evaluate the preparedness of a program student to return to the program after extended absence. Prerequisite(s): Admitted to the Surgical Tech program.

SURT 2204 - Operating Room Theory (4 cr)

This course provides theory of essential information necessary to function efficiently in a surgery department. The course prepares students to function in the role of a responsible, knowledgeable surgical technologist. It encompasses a comprehensive knowledge of aseptic technique. Prerequisite(s): None.

SURT 2206 - Operating Room Practices (5 cr)

This clinical laboratory course provides practical application in the lab setting of information essential to function independently as a surgical technologist. Prerequisite(s): None. Corequisite: SURT2204.

SURT 2212 - Operative Procedures (5 cr)

This course covers a basic reference for the humane and technological surgical care of patients during surgical intervention. Prerequisite(s): SURT2204, SURT2206.

SURT 2216 - Clinical I (6 cr)

This course provides supervised occupational experience in the clinical setting. It is designed to apply knowledge acquired in the classroom and laboratory to the development and performance of competencies associated with operating room policy and procedure. Prerequisite(s): SURT2206.

SURT 2220 - Clinical II (7 cr)

This course provides supervised occupational experience in the clinical setting. It is designed to apply knowledge acquired in the classroom and laboratory to the development and performance of competencies associated with operating room policy and procedure. Prerequisite(s): None. Corequisite: SURT2216.

Theater

THTR 1102 - Beginning Acting (3 cr)

(Fulfills MNTC Area: 6) This course includes a consideration of established styles and theories of acting with an emphasis on actual presentation of monologues and scenes for critique. It includes analysis of the role, stage movement, and vocal mechanics necessary for the effective projection of a dramatic characterization. Prerequisite(s): None.

THTR 1181 - Theater Participation (1 cr)

This course involves active participation in stage productions as stage manager, actor, or as a crew member for set construction, lighting crew, properties crew, publicity crew, or box office. It may be repeated for credit. Prerequisite(s): None.

THTR 2201 - History of Film (3 cr)

(Fulfills MNTC Area: 6) This course includes a history of film, its inventors, pioneers, and development. This course will trace the development of film chronologically, and the different elements of film will be explored: photography, composition, movement, editing, sound and other technical areas, and acting. Prerequisite(s): None.

Unmanned Aerial Maintenance Technician

UAST 2110 - Foundations of UAS (3 cr)

This course offers students a history and overview of the development of unmanned aircraft vehicles, systems, payloads, and current Unmanned Aircraft System (UAS) applications in the field. The goal of this course is to allow the student to understand the basic components of the UAS to include: workplace safety practices, aircraft documentation, UAS operations, and maintenance theories. Prerequisite(s): None.

UAST 2120 - Fabrication Integration (5 cr)

This course provides students with classroom training and lab exercises to successfully identify and repair non-metallic portions of unmanned aerial systems (UAS) components. The course will utilize composite material

and equipment specific for the use in UAS. Prerequisite(s): None.

UAST 2150 - Control Station (3 cr)

This course offers students a working knowledge of principles required to maintain and operate components of unmanned aircraft systems (UAS) control stations (CS). The student will develop a comprehensive understanding of how an unmanned aircraft (UA) is controlled via the CS Prerequisite(s): AVET 2131, CPTR 1131.

UAST 2160 - UAS Aviation Maint Tech (2 cr)

The goal of this course is to ensure the student possesses the basic competencies to maintain the UAS to include the following components: propulsion, fueling system, electrical, flight control systems and operational system checks, ground support, and handling equipment. Prerequisite(s): None.

UAST 2180 - sUAS Ground School (3 cr)

This course serves as a preparation for the Federal Aviation Administration (FAA) Private Pilot knowledge test. Course content includes, but is not limited to: FAA regulations, weather, radio communications and navigation, safety, aerodynamics, airspace, and emergency procedures. Prerequisite(s): None.

UAST 2190 - sUAS Lab (3 cr)

This course offers students the opportunity to assemble, program and flight test a small unmanned aerial system (sUAS). The goal of this course is to allow the student to understand each component in a sUAS and how each functions as a part of the whole system. Students will apply basic flight principles, wiring practices, electronics knowledge and common operational concepts to successfully complete this course. Prerequisite(s): AVIA1105, CPTR1136, UAST2180.

UAST 2200 - On Job Training (1 cr)

This course is designed for the small unmanned aerial system (sUAS) field service technician student to gain valuable experience while developing skills in an industry setting. The student and instructor will develop a training plan to further develop skills previously learned, as they are appropriate for their work site. Students must spend 48 hours working in an approved supervised occupational setting. Prerequisite(s): None.

Welding

WELD 1100 - Weld Orientation (1 cr)

This course is designed to introduce welding students to, and/or properly use the following: personal protective equipment (PPE), shop procedures, welding and related processes safety procedures, navigate college and program online features, download and save documents relative to the program. Prerequisite(s): None.

WELD 1102 - Weld Fundamentals (3 cr)

This course provides a basic understanding of the scope and importance of welding in our society, welding safety, basic joints, positions, processes and procedures. An introduction to shielded metal arc welding (SMAW) (stick), gas metal arc welding (GMAW) (wire), and oxy-acetylene processes will be covered, utilizing lab exercises and classroom lecture. Prerequisite(s): None.

WELD 1104 - Basic SMAW (4 cr)

This introductory course provides skill development in performing the Shielded Metal Arc Welding (SMAW) process in all positions and many joint types on mild steel. Prerequisite(s): None.

WELD 1106 - Flux Cored Arc Welding (2 cr)

In this course, students apply knowledge of the Flux Cored Arc Welding (FCAW) process and develop skills to successfully complete groove welds on mild steel in all positions. This welding process is commonly used in manufacturing, construction and repair settings. Prerequisite(s): None.

WELD 1107 - GTAW -- Alum & SS (3 cr)

This course will provide the student the opportunity to practice using the Gas Tungsten Arc Welding (GTAW) process on stainless steel and aluminum in sheet, plate, and tubing forms. The students will receive instruction on GTAW set-up and shutdown procedures based on the material to be welded. The student will also have the opportunity to complete the American Welding Society (AWS) Welder Performance Qualification tests in accordance to AWS QC10. Prerequisite(s): None.

WELD 1108 - GMAW -- Manufacturing (4 cr)

This course is designed to expose the welding student to various types of Gas Metal Arc Welding (GMAW) used by regional employers. The students will use various electrode wire diameters and electrode wire types. The students will get to experiment with different gas mixtures while welding mild steel, stainless steel, and aluminum parts. This course will also cover the proper safety precautions required in a weld manufacturing area, steps required for set-up and shut-down of a GMAW machine, how to match electrode wire types to the material to be welded, and trouble-shooting common weld defects while GMA welding on mild steel, stainless steel, and aluminum. This course aligns with the American Welding Society's SENSE programming for welders. Prerequisite(s): None.

WELD 1109 - Weld Fabrication (4 cr)

This course is designed to give the student a basic understanding of the intricacies that go into fabricating a weldment. Topics covered will include: blueprints, tolerances, material selection, and weld distortion. This course will also cover proper set-up and tacking of parts, identification of various structural materials, and how to lay out and cut parts for assembly. The course will allow the student to fabricate small weldments following a given set of steps and gradually work up to the student creating their own steps to fabricate a weldment of their own design. Prerequisite(s): None.

WELD 1110 - Blueprint Reading/Symbols (2 cr)

This course provides an understanding of blueprints used within welding technology settings. Students also develop skills for reading, understanding, and interpreting weld symbols. Prerequisite(s): None.

WELD 1112 - Advanced SMAW (4 cr)

This advanced course includes welding thicker mild steel plate in all positions using a variety of electrode groups. Students complete welding tests in accordance with the AWS D1.1 Structural Welding Code. Prerequisite(s): WELD1104.

WELD 1114 - Basic Fabrication (4 cr)

This course provides knowledge of equipment and procedures used for metal fabrication. Students apply theory and use skills learned in previous courses to design or produce a selected project utilizing blueprints, working drawings, and a variety of materials. Prerequisite(s): WELD1110 or MFPT1520.

WELD 1116 - Gas Shielded Processes (5 cr)

This course provides students with technical understanding of welding safety, fundamentals, equipment, and shielding gasses using both ferrous and non-ferrous metals. Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW) will be covered in this course. Prerequisite(s): WELD1102.

WELD 1117 - Gas Tungsten Arc Welding (3 cr)

This course will provide the student the opportunity to practice using the Gas Tungsten Arc Welding (GTAW) process on mild steel. The students will receive instruction on GTAW set-up and shutdown procedures based on the machine being used. The student will also have the opportunity to complete the Welder Workmanship Qualification for mild steel as defined in American Welding Society EG2.0. Prerequisite(s): None.

WELD 1118 - Internship (4 cr)

This course is designed for the welding student to gain valuable experience while developing welding skills at an industry setting. The student and instructor will develop a training plan to further develop skills previously learned, as they are appropriate for their work site. Students must spend 192 hours working in an approved supervised occupational setting. Prerequisite(s): None.

WELD 1120 - SMAW Pipe (3 cr)

In this course, students apply knowledge of the Shielded Metal Arc Welding (SMAW) process and develop skills to complete groove welds on pipe in all positions. This type of welding is an advanced level skill and is commonly used in manufacturing, construction and repair settings. Prerequisite(s): WELD1112.

WELD 1121 - Oxy-Acetylene Weld/Cut (2 cr)

This course covers the technical understanding of the oxy-acetylene welding (OAW) process, safety, and set-up. The proper use of the equipment will be covered. This course will also provide the opportunity to develop manual skills in welding, cutting, and brazing. Prerequisite(s): None.

WELD 1122 - GTAW Pipe (3 cr)

In this course, students apply knowledge of the Gas Tungsten Arc Welding process and develop skills to complete groove welds on pipe in all positions. This type of welding is an advanced level skill and commonly used in manufacturing, construction, and repair settings. Prerequisite(s): WELD1120.

WELD 1123 - Fabrication Math (2 cr)

This course will provide students with a comprehensive overview of basic math skills required for employment in the welding industry. Topics of this course will include measurement, functions with whole, fractional, and decimal numbers, cost estimating, and metric conversion. This course aligns with the American Welding Society's SENSE welding programming. Prerequisite(s): None.

WELD 1124 - Cutting Processes (1 cr)

This course covers principles and practices of cutting using Oxy-Acetylene, Plasma, and Air Carbon Arc processes. Prerequisite(s): None.

WELD 1125 – CNC Plasma Cutting (2 cr)

This course provides students with a technical understanding of what Computer Numerical Control (CNC) Plasma Arc Cutting (PAC) is. They will be introduced to plasma cutting, including the history of plasma and PAC safety. Students will also receive hands-on instruction with a CNC cutting table and related hardware and software. The course will cover creating and manipulating tool paths and G-code programming. The students will create their own, instructor guided, project using Torchmate Computer Aided Design (CAD) and develop the G-code program to cut their project on the plasma table. Prerequisite(s): None.

WELD 1130 - Gas Metal Arc Welding (4 cr)

This introductory course provides skill development in performing the Gas Metal Arc Welding (GMAW) process in all positions on many joint types. Prerequisite(s): None.

WELD 1131 - Advanced GMAW (4 cr)

This advanced Gas Metal Arc Welding (GMAW) course provides students with a technical understanding of welding safety, GMAW equipment, and shielding gasses using both ferrous and non-ferrous metals. Gas Metal Arc Welding and Flux Cored Arc Welding (FCAW) will be covered in this course. Prerequisite(s): WELD1130.

WELD 1150 - Weld Qualification (1 cr)

This 2nd half semester course will provide the student with the opportunity to utilize their skills learned to qualify using industry approved welding procedure specifications. The student will be allowed to determine the qualifications to attempt based on the welding field they intend to enter. Prerequisite(s): Instructor Approval.

WELD 1570 - Welding Internship (2 cr)

This course is designed for welding students to gain valuable experience while developing skills in an industry setting. Students and instructor will develop a training plan for further development of skills previously learned. Prerequisite(s): None.

Admission to NCTC

1. Visit Northland Community & Technical College at either campus or go online at northlandcollege.edu
2. While online, fill out the application or print and mail the form to either campus.

If you do not have internet access, contact us and we will be happy to send you an admissions packet.

Northland Community & Technical College – East Grand Forks
2022 Central Avenue NE
East Grand Forks, MN 56721
218.793.2800 or 800.959.6282
http://www.northlandcollege.edu/admissions/

Northland Community & Technical College – Thief River Falls
1101 Highway One East
Thief River Falls, MN 56701
218.683.8800 or 800.959.6282
http://www.northlandcollege.edu/admissions/

3. Provide NCTC with an official copy of your high school transcript of GED, all previous college transcripts, and immunization records.
4. File for financial aid by completing the financial aid assistance packet, available online at fafsa.ed/gov
5. Call or go to northlandcollege.edu/admissions/assessment to make an appointment to take the assessment test, meet with an academic advisor, and register for classes.

Financial Information

Virtually all students at Northland Community & Technical College are eligible to receive some type of financial aid. Students who want to be considered for financial aid must complete the Free Application for Federal Student Aid (FAFSA) and any other documentation requested. Students should be aware that the initial responsibility for paying for college expenses lies with the student and/or parents.

To assist students in meeting college costs, Northland offers a comprehensive program of student financial aid. Programs available to Northland students include:

- Grants
- Employment
- Loans

To review more detailed information on financial aid including grant and loans, visit the Northland website at http://www.northlandcollege.edu/admissions/financial-aid/.

Northland Community & Technical College Foundation

The Northland Community & Technical College Foundation's mission is to support the college by providing opportunities for contributor s to invest in and enhance the educational experience of Northland's students. The Foundation awards over $160,000 in scholarships annually. Scholarships range in value from $50 to $4,000, depending on contributions or annual growth in the individual funds. Eligibility and criteria for scholarships varies and is often established by the donors. Several scholarships were established as endowments in honor of, or in memory of individuals who have had a special commitment to the College or community. The Foundation invites anyone interested in establishing an endowment or scholarship to contact the Foundation office.

New students planning to attend Northland may apply for scholarships by completing a *Northland Foundation New Student Scholarship application*, available in January, to be eligible for scholarships awarded prior to fall semester. **Returning students** may apply for scholarships by completing a *Northland Foundation Current Student Scholarship application*, available at the start of each fall semester, to be eligible for scholarships awarded during spring semester. Students must complete applications in full and meet the deadlines established for each application to be considered for a scholarship.

Applications are available of the website: northlandcollege.edu/admissions/financial-aid/scholarships/ or on campus.

A complete listing of scholarships is available on the website. Events and programs sponsored by the Foundation as well as opportunities for alumni to keep in contact with the College are also available.

Anyone interested in establishing a scholarship fund, contributing to an existing fund, or serving on the Board of Directors or a Foundation committee may contact the Foundation Office at 218-683-8616 or 800-959-6282, or by email, www.NCTCfoundation.com.

Counseling and Academic Advising

Licensed counselors are available on each campus to assist students with career counseling, academic advising and personal concerns. Northland Community & Technical College counselors serve prospective and enrolled students to address their identified needs by reducing the barriers that they encounter on their educational journey. Counselors are available to assess student needs on an individual basis and refer to appropriate community agencies as necessary. Go to northlandcollege.edu/support-services/counseling/ for more information.

The purpose of the Advising Office is to provide academic guidance to Northland Community & Technical College students. The advisors assist students with plans for their course of study, class registration, and give academic advice. Advisors strongly recommend that students meet with them regularly to plan academic schedules to assure students are on-track to meet their educational goals. Advisors work to make the students' transition to 4-year and other schools as seamless as possible by providing necessary information and assistance.

Visit Northland's website at
http://www.northlandcollege.edu/support-services/academic-advising/contact/

Academic Success Center (ASC)

Services provided by the Academic Success Center are available to every student on campus. This may include students requesting tutors or those with disabilities needing services. In addition, Personal Education Plans are available for students who lack English proficiency. The ASC also accommodates testing by arrangement with instructors. All services are provided free to Northland students.

Northland's Academic Success Center serves as a resource for students who want to improve their academic performance. The ASC provides a program of instructional services to students who may potentially have, or are currently having, academic difficulties. These services are available from specially trained staff in the areas of improvement of study skills, communication skills, math skills, and some diagnostic testing. Individual and group tutoring is available to all students who need help with content areas within their program.

In addition to instructional services, the Academic Success Center plans for and provides services for students with disabilities. They will assist with transition planning prior to enrollment and provide on-going support. Students with documented disabilities of physical limitations may be provided with recommended academic options from a qualified professional that may include providing extended time for tests, reading-modified tests, enlarged print for tests, note-takers, modifying the environment or making curriculum accommodations In accordance with documented student need. Students are encouraged to take advantage of these free services provided by the Academic Success Center.

Limited English Proficiency (LEP) support services are developed for individual students through the ASC. These services may include not-takers, extended time for tests, readers for tests and private testing rooms. Go to northlandcollege.edu/support-services/academic-success-center/ for more information.

Diversity Services

The office of Diversity Services was established to provide a support system for diverse students who attend the college. Northland offers students of diverse backgrounds personalized support program through academic, career, and personal counseling. The Office of Diversity Services also provides assistance to students of color to identify additional sources of educational funding. Employees are always willing to provide individualized support and assistance when needed.

The Office of Diversity Services is dedicated to all students of diverse background while they purse their educational goals. For those students who qualify, there are grants and scholarships, the Minnesota Indian Scholarship Assistance Program, Tribal Scholarships, Health Service Scholarships, Workforce Investment Act funding, as well as numerous academic scholarships.

Additional information can be found at www.northlandcollege.edu/support-services/multicultural-services

Veterans' Services

The Veterans Resource Center at Northland Community & Technical College provides information to support veterans and their families. Whether veterans are entering school for the first time, transferring from another college, or returning from deployment, the goal of the center is to provide a welcoming environment for all who visit. The center is available for studying, offers educational and services information, and offers a welcoming environment to socialize with other veterans. A Minnesota Department of Veterans Affairs representative is available weekly to provide assistance with veterans' benefits. Veteran Certifying Officials are available on both campuses as your local connection to the VA to ensure veterans receive all the benefits to which they are entitled.

For additional information, stop by the Veterans Resource Center or go to www.northlandcollege.edu/admissoins/veterans/.

Student Life

All students are welcomed and encouraged to participate in the variety of student life activities on both campuses. Activities include special events, entertainment, and cultural observations such as Women's History, Black History, and Native Images Month. Many other special events take place throughout the year such as concerts, comedians, lecturers, speakers, foreign films, concerts, and dances. Getting involved on campus can provide an enriching college experience and improve academic success. Activities are supported by Student Life fees.

Northland strongly supports student participation in professional service organizations, honor societies, clubs and other organizations. Getting involved has been shown to increase student success. Some clubs and organizations available at Northland include student ambassadors, campus recreation and intramurals, music, Phi Theta Kappa honor society, and many others including program-specific clubs.

The Student Senate serves to organize and stimulate activities within the student body for the broader college community. Serving with student government or as a member of the Student Senate is an ideal way to develop student leadership skills. Student Senate is composed or the president, vice-president, secretary, treasurer, and other representatives of the student body. The objectives of the Student Senate are to represent the student body and affiliated organizations in all matters of mutual concern, to provide social and cultural activities for the student body, to establish a calendar of events that will act as a student life guide, and to act as an advocate between the administration and student body. The Student Senate also serves as the means for the students to become involved in issues and decision-making on matters affecting student life and government at the local campus level, as well as state and national levels.

For more information, visit the student life website at www.northlandcollege.edu/studentlife/.

Northland Pioneer Athletics

The Northland Community & Technical College athletic department welcomes talented athletes from the local, national, and international communities. The department's mission is to enhance and support the intellectual mission of the College and its academic standards and practices. The Pioneer coaching staff encourages student athletes to get involved in the College and community. Many student athletes participate in campus organizations and community service groups. Pioneer athletes and teams are also recognized annually for their outstanding academic achievements.

Northland is a leader in promoting athletics, participating in numerous state, regional and national competitions. The Northland athletic programs have a long tradition of excellence both on and off the playing surface and are recognized as an important part of the college experience. Intercollegiate sports at Northland include:

Men	Women
Baseball	Basketball
Basketball	Softball
Football	Volleyball
Wrestling	

Northland Pioneer Athletics is a member of the National Junior College Athletic Association (NCJAA) and is assigned to Region XIII including two-year colleges from Minnesota, upper Michigan, North Dakota, South Dakota and Wisconsin. Northland is also a member of the Minnesota Community College Conference along with most two-year colleges in Minnesota. The Thief River Falls campus hosts all Pioneer athletic facilities; however, students from both campuses are qualified to participate in the intercollegiate Pioneer athletic program based on their eligibility. Visit the Pioneer Athletics website at www.northlandcollege.edu/athletics/volleyball/.

Additional Services

Campus Bookstores

Northland bookstores are located on both the Thief River Falls and East Grand Forks campuses. The bookstores are the place to purchase textbooks, student supplies, and official Northland gear. Additionally, students can buy or sell new and used textbooks and purchase software and gifts. All financial aid and student payroll checks are disbursed at the bookstore upon showing student identification. Tuition and all other financial obligations are paid at the bookstore. For more on the Northland bookstores, go to www.northlandcollege.edu/students.

Business Services

The business office is responsible for the fiscal operation of the college. This includes working with budgets, student accounts receivable, accounts payable, purchasing, and fixed assets. Visit Business Services on Northland's website at www.northlandcollege.edu/support-services/business-services.

Dining Services

Cafeteria and catering services are available on both campuses. The Fresh Stop Café on both campuses are open Monday through Friday during normal class hours. Hours vary depending on when classes are in session. Enjoy a variety of menu options including favorites like burgers, pizza, subs, and daily specials. Grab 'n Go sandwiches, snacks and salads, and a wide selection of hot and cold beverages are available for those on the go. Additional information can be found at http://northland.lancerhospitality.com/campus-dining/.

Student Housing

Northland Community & Technical College maintains a list of available housing in the area for student use. Northland will not inspect, screen, disapprove, or otherwise check out any of the available housing. The College does not enter into housing agreements or arrangements between students and landlords, nor does it become involved in any negotiations regarding housing problems.

NCTC Foundation Student Housing

The Northland Community & Technical College Foundation owns and operates apartments adjacent to the Thief River Falls campus. These apartments were completely refurbished with new windows, appliances, flooring, paint, and furniture in the summer of 2016. Up All apartments are completely furnished and come with basic TV cable service, high-speed internet, washers and dryers, and full kitchens. Details can be found at http://www.northlandhousing.com/.

Technical Support

Northland's information technology staff provides student-friendly support for technical service. Resources and tools, laptop configuration, software download, and more are available at www.northlandcollege.edu/about-northland/offices/technology/.

2020 ADMISSIONS

Northland Community and Technical College (NCTC) is committed to open admissions with the following requirements:

- The basic requirement is a high school diploma or GED certificate as recognized by the U. S. Department of Education,
- A person who has neither a high school diploma nor a GED certificate may be admitted if that person demonstrates potential for being a successful college student, based on a passing score on an approved Ability to Benefit Test, and
- Admission to NCTC does not guarantee admission to college-level courses, as provided for in Policy 3340 Assessment for Course Placement.

2020 PROCEDURE -- ADMISSIONS

Application Fee and Form

Northland Community and Technical College (NCTC) charges an admission application fee of $20.00 and may process a prospective student's application pending payment of the application fee, but shall not communicate an admission decision to the applicant until the fee has been paid or waived.

- NCTC shall not charge an application fee to a student who has previously been admitted to, or has been enrolled at NCTC.
- NCTC also shall not charge an application fee to a student who has attended a Distance Minnesota partner college and is enrolling in an online Northland program.
- Post Secondary Enrollment Option (PSEO) students shall not be charged an admission application fee. The student will be charged the application fee at the time they apply for admission as a regular student.
- NCTC shall refund the application fee to students who are denied enrollment due to program size limitations or program closure and wish to cancel the admissions process.
- NCTC shall waive the application fee for applicants who are currently deployed overseas in the military. Prospective students may apply by using the online application form, by completing the system-wide application, or the NCTC paper application. Contact the College if a paper application is desired or download and print it from the website.

The online application may be found at www.northlandcollege.edu.

Special Student Status

Applicants who are not seeking a diploma, certificate or degree from Northland may be allowed to enroll in coursework as special students indicated as "undeclared" or "non-degree seeking" students in the student reporting system (ISRS). Non-degree seeking or undeclared students are individuals whose goal is to take a limited number of courses for the purposes of personal or professional enrichment and who have no intent of accumulating credits toward a certificate, diploma, or degree. Undeclared and non-degree seeking students are not eligible for financial aid from NCTC.

Undeclared and non-degree seeking students will be required to pay an application fee. High school transcripts will not be required. College transcripts or assessment scores are necessary if they want to take NCTC courses that have prerequisites that they have satisfied at another college. The out of state reciprocity process must be completed, if applicable. Students registered for more than one on-campus class for a full semester must submit an immunization form indicating immunizations received as per policy 2068 Immunization Record Requirement.

Admission to a Program

Prospective students may apply to the College, without regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, gender identity, or gender expression, or familial status or membership or activity in a local commission as defined by law. Academic, fiscal and facilities considerations may limit admission to particular programs or the institution. Admission to the College does not guarantee admission to a specific program.

Students Suspended from other Institutions

Students on academic suspension from a college or university shall not be admitted during the term of that suspension unless they demonstrate potential for being successful in the particular program to which they apply. The process for demonstrating potential for being successful is the Student Appeal process. Students who have been suspended or expelled for disciplinary reasons from any postsecondary institution may be denied admission to NCTC.

Appeals

Individuals who are denied admission on the basis of the published requirements in policy 2020 Admissions and Procedure 2020P Admissions, may file a Student Appeal Form with the campus registrar's office. Appeals of denial of enrollment based on financial holds shall not be accepted.

Financial Holds

NCTC may admit a student who has a financial hold at another college or university, but shall not allow the student to enroll in courses until the financial hold has been removed.

Visiting Student Status

Students not admitted to NCTC. NCTC may allow a student who is not currently admitted as a student to enroll for the maximum number of credits allowed by its enrollment policy in any semester without submitting an application for admission.

Students admitted to a system college or university. NCTC shall allow a student who has been admitted at another system college or university to enroll as a visiting student. A visiting student shall not be required to submit an application for admission, and is not a candidate for a degree, diploma or certificate. A visiting student may enroll for the maximum number of credits allowed by NCTC's enrollment policy; provided, that the student's total number of enrolled credits at all system colleges and universities shall not exceed 22 in any semester.

Visiting student provisions.

- Visiting students shall satisfy NCTC's course prerequisites.
- NCTC may deny enrollment as a visiting student to any student who has an enrollment hold due to conduct, or satisfactory academic progress reasons at any system college or university.
- NCTC shall deny enrollment as a visiting student to any student who has an enrollment hold due to outstanding financial obligations at any other system college or university.
- NCTC shall establish a registration window for visiting students that provides a reasonable opportunity to register for courses.
- NCTC may limit enrollment of visiting students in courses that historically have enrollment requests exceeding available seats.

2092 LAST DATE OF ATTENDANCE (LDA)/ NO-SHOW REPORTING

Federal policies governing Title IV Financial Aid regulations require the verification of students in attendance. The verification of student attendance will determine how much Title IV Financial Aid a student receives. Non-compliance will affect the college's eligibility for federal student aid. In order to comply with these regulations, Northland Community and Technical College will verify student attendance on the fifth day of classes (No Show). Faculty shall report a last date of attendance on those students who do not complete the course.

2092 PROCEDURE -- LAST DATE OF ATTENDANCE (LDA)/ NO-SHOW REPORTING

Students not attending any or all of their classes during the first 5 days of the semester will be reported, by faculty, as a No Show. The process is available to faculty through the Employee eServices. An FN (Failure for Non Attendance) grade will be entered for each reported course on that student. The FN grade will not be calculated in the overall GPA for the student. For courses beginning later in the term, students not attending the first class day will be reported as a No Show by faculty. The FN grade will be posted.

The Last Date of Attendance (LDA) will be entered by faculty members in eServices for students who have not been in attendance after the fifth day of the term (students not attending during days 1-5 are reported as No Shows) and have not completed the course. An FW (Unofficial Withdraw) grade will be entered and will be calculated in the overall GPA for the student. The LDA date must be entered on any student that, according to the instructor, would receive an "F" grade in his/her class due to nonattendance. If, however, the student does attend for the full length of the class, but "earns" an "F" grade through poor academic performance, the "F" grade is entered and the LDA date would be the last day of the class. If a student has not officially withdrawn, the last date of attendance will be validated either by faculty/staff documentation or by applying the midterm date. The Last Date of Attendance (LDA) process is available to faculty through Employee eServices.

3070 ACADEMIC PROGRESS

Introduction

Standards of academic progress are established to require students to progress satisfactorily and timely toward the completion of their degree, diploma or certificate. Additionally, federal regulations require that recipients of federal and/or state financial aid make satisfactory academic progress towards a degree, diploma or certificate to remain eligible for aid. In compliance with federal regulations, the college has established and will apply the following standard of academic progress to all students. The qualitative and quantitative standards of this policy are cumulative and include all periods of enrollment, whether or not a student received financial aid. The registrar's office is responsible for implementing and monitoring the satisfactory academic policy.

Students are responsible for their academic progress and for seeking assistance when experiencing academic difficulty. Students are encouraged to work closely with an advisor or a counselor to ensure that they are successfully completing graduation requirements and maintaining satisfactory progress.

Qualitative Measure (GPA)

All students are required to maintain the following minimum GPA levels:

Cumulative Registered Credits	Minimum Required GPA
0 – 5	0.00
6 – 23	1.75
24 and above	2.00

Grades of A, B, C, D, FW, and F shall be included in the GPA calculation.

Quantitative Measure (Completion Percentage)

All students are required to complete the following minimum percentages of cumulative attempted credits:

Cumulative Completion Credits	Minimum Required Completion
0 – 5	0%
6 or more	67%

Successfully completed credits include A, B, C, D, P, and CR.

Maximum Time Frame

Students whose cumulative attempted credits exceed 150% of the credits required to complete their intended degree, diploma or certificate are not eligible for financial aid. Up to 30 remedial and developmental credits shall be excluded from maximum time frame calculations. Maximum time frames for students pursuing double majors, students enrolled in consecutive programs or with previous degrees may be based on specific curricular requirements.

Evaluation Period

Satisfactory academic progress will be evaluated for all students with registered credits at the end of each semester; fall, spring and summer. Any non-standard session courses shall be evaluated during the semester in which they are transcripted. Programs less than one year in length will be evaluated at the end of the payment period.

Failure to Meet Standards

Warning Status: If at the end of the semester, a student has not met either the required cumulative GPA standard and/or required cumulative completion percentage standard, the student shall be allowed to enroll and retain their financial aid eligibility under **warning status** for one semester. Students on warning status are encouraged to meet with an advisor or counselor and complete an Academic Improvement Plan at the beginning of the warning term of enrollment. This document will be placed in the student's file.

Reinstatement of Students on Warning Status: If at the end of the warning period a student who has been on warning status has met both the college's cumulative GPA and cumulative completion percentage status, the college shall end the student's warning status.

Suspension for Students on Warning Status: A student on warning status who fails to meet the required cumulative GPA and/or cumulative completion percentage, shall be placed on suspension immediately upon completion of the evaluation. All suspensions will be one calendar year in duration. Students returning after a period of suspension are eligible to be readmitted and will be placed on probation. Probation students will be required to complete an Academic Improvement Plan prior to registration. Requirements of the Academic Improvement Plan will include earning a term GPA and/or term percent of completion higher than the college's cumulative requirements. Students returning after a period of suspension should not assume that financial aid will be reinstated. An appeal to the financial aid office will be required.

Suspension at another college or university (Minnesota State or non-Minnesota State)

Students with satisfactory academic progress standings from another college or university are subject to the following standards:

- Students with a suspension status from another college or university that has not expired must have an approved appeal to enroll at the college
- Students with a suspension status from another college or university that has expired will be eligible to enroll on a probation status. These probation students will be subject to the same requirements an NCTC student on probation is subject to, including the completion of an Academic Improvement Plan and earning a term GPA and/or a term percent of completion higher than the college's cumulative requirements.

Financial Aid Suspension of Students

Maximum Time-Frame Failure: If at the end of the evaluation period a student has failed to meet the maximum time frame measurement, the student shall be suspended from financial aid eligibility immediately upon completion of the evaluation.

Suspension for Extraordinary Circumstances: The college may immediately suspend students from financial aid eligibility in the event of extraordinary circumstances which may include but are not limited to the following:

i. reinstated students whose academic performance falls below acceptable standards during a subsequent semester;

ii. students who register for courses and receive financial aid, but do not attend classes; and students whose attendance patterns appear to abuse the receipt of financial aid.

Suspension for Inability to Meet Program Requirements within the Maximum Time Frame: If at the end of any evaluation period the college determines that it is not possible for a student to raise their GPA or course completion percentage to meet standards before the student would reach the end of the program for which he or she is receiving financial aid, the college shall suspend the student from financial aid eligibility immediately upon completion of the evaluation.

Appeals for Reenrollment

Any student who has been suspended from enrollment due to failure to make satisfactory academic progress may appeal their ability to enroll in courses based on documented unusual or extenuating circumstances which may include but is not limited to death of a relative, illness, hospitalization, or injury of the student by using the college Academic Appeal Procedure. The student must complete the Appeal Form accurately and submit the form to the campus registrar. The student shall submit, as part of the appeal, information regarding why the student failed to make satisfactory academic progress, and what has changed in the student's situation that would allow the student to demonstrate satisfactory academic progress at the end of the next semester. If the student wants to present their case in person to the Academic Appeal committee, they must notify the campus registrar of that decision at the time the appeal is submitted.

An appeal may be approved only if the college:

1. Has determined that the student has documented unusual or extenuating circumstances and should be able to meet satisfactory academic progress standards at the end of the next evaluation period; or

2. Develops an academic improvement plan with the student that, if followed, will ensure that the student is able to meet satisfactory academic progress standards by a specific point in time. The academic improvement plan must include term standards of GPA and/or percent of completion that are higher than the institution's cumulative standards.

The academic improvement plan may include but is not limited to the following:

i. a restriction on the number of credits;

ii. a requirement that certain courses be taken;

iii. a requirement regarding class attendance;

iv. a requirement that scheduled meetings occur with a counselor or advisor to review student progress.

The Academic Appeal committee will notify the student of the outcome in writing. Notification of approved appeals must include the standards that the student is expected to meet or the academic improvement plan that the student is expected to complete. Notification of denied appeals must describe the reason(s) for the denial and the institution's process for appealing that denial according to NCTC Student Complaints and Grievances procedure 3240P. A separate process exists to appeal for reinstatement of financial aid. This process is explained below.

Probationary Status:

A student who has successfully appealed must be placed on probation for one semester. If at the end of the next semester, a student on probation status:

1. Has met the college's cumulative GPA and cumulative completion percentage standards, the student will regain enrollment and financial aid eligibility.

2. Has not met the college's cumulative GPA and cumulative completion percentage standards, but has met the conditions specified in the student's academic improvement plan, which includes a GPA and/or percent of completion higher than the college's cumulative standards, the student shall retain probationary status for a subsequent evaluation period.

3. Has not met the college's cumulative GPA and cumulative completion percentage standards and has also not met the conditions specified in the student's academic improvement plan, the student shall be re-suspended immediately upon completion of the evaluation.

Appeal for Reinstatement of Financial Aid

Any student who has been suspended from financial aid may appeal their ability to receive financial aid directly to the financial aid director by using the Appeal/Petition for Reinstatement of Financial Aid Form. The student must accurately complete and submit the form with supporting documentation and an Academic Improvement Plan to the financial aid office. The financial aid office will log the appeal and submit to the financial aid director for review. The financial aid director must notify the student of the outcome in writing. 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 whose financial aid eligibility has been suspended may regain their eligibility only through this appeal process or when they are again meeting the college's financial aid satisfactory academic progress GPA and completion percentage standards.

Appeals may be granted in situations that demonstrate unusual or extenuating circumstances. Unusual or extenuating circumstances may include but are not limited to the following: death of a relative, illness, injury, or hospitalization of the student. It is required that students attach appropriate supportive documentation, such as doctor's statements to their form.

The student shall submit, as part of the appeal, information regarding why the student failed to make satisfactory academic progress, and what has changed in the student's situation that would allow the student to demonstrate satisfactory academic progress at the end of the next semester.

An appeal may be approved only if the financial aid director:

1. Has determined that the student should be able to meet satisfactory academic progress standards at the end of the next evaluation period; or

2. Reviews the Academic Improvement Plan that was developed with an advisor or counselor, and if followed, ensures that the student is able to meet satisfactory academic progress standards by a specific point in time. The academic improvement plan must include term standards of GPA and/or percent of completion higher than the institution's cumulative standards.

Notification of approved appeals must include the standards that the student is expected to meet or the academic improvement plan that the student is expected to complete in order to retain financial aid eligibility at the end of the next evaluation period. Notification of denied appeals must describe the reason(s) for the denial and the college's process for appealing that denial.

The initial consideration of an appeal must be undertaken by the Director of Financial Aid or a designee. If an initial appeal is denied by the Financial Aid Director or designee, the student may appeal the initial decision by using the college Appeal/Petition for Reinstatement of Financial Aid Form within ten days of receiving the financial aid director's decision. The student must complete the Appeal/Petition for Reinstatement of Financial Aid Form accurately and submit the form and any additional required documentation to the campus registrar; the student must attach a copy of the denied appeal/petition for reinstatement of financial aid; if a student wants to present their case in person to the Vice President of Academic and Student Affairs and the Dean of Student Affairs, they must notify the campus registrar of that decision at the time that the appeal is submitted. The Vice President of Academic and Student Affairs must notify the student of the joint outcome in writing and must include the standards that the student is expected to meet or the academic plan that the student is expected to complete in order to retain financial aid eligibility at the end of the next evaluation period.

The decision of the Vice President of Academic and Student Affairs and Dean of Student Affairs is final and binding.

Financial Aid Appeal/Petition for Maximum Timeframe

Students who have reached the maximum timeframe for financial aid and who have only a few courses left to complete their degree, diploma, or certificate may petition to have the suspension lifted for ONLY the courses needed to finish that degree, diploma, or certificate. To file an appeal for maximum timeframe suspension, a student must meet with an advisor to complete an academic improvement plan. The academic improvement plan must outline the courses needed for completion and a completion date. Students must submit a copy of the academic improvement plan along with the Appeal/Petition for Reinstatement of Financial Aid form and any other supporting documentation to the financial aid office for review. If approved, the student's financial aid will cover only the courses related to completion of the degree, diploma, or certificate. Financial aid appeals submitted without required documentation will be denied.

Notification of Status

NCTC shall notify a student in writing any time the student is placed on warning, suspension or probation status.

1. Notification of warning – The college shall notify a student in writing any time the student is placed on warning status, and shall inform the student of the conditions of that warning status.
2. Notification of suspension – The college shall notify a student in writing any time a student is placed on suspension status, and shall inform the student of their right to appeal the suspension.
3. Notification of probation – The college shall notify a student in writing any time a student is placed on probationary status, and shall include the standards the student is expected to meet or the academic improvement plan the student is expected to complete at the end of the next evaluation period.

Treatment of Grades

Earned Credits: Successfully completed credits that count toward the required percentage of completion. Earned credits include only A, B, C, D, and P (pass).

Completed Credits: Credits that include A, B, C, D, F, FW (unofficial withdraw), P, and CR. They do not include FN (failure for non-attendance), I (incomplete), W (withdraw), AU (audit), NC (no credit), Z (grade not yet entered), or drops (classes dropped during the drop/add period). Completed credits may qualify for retroactive payment of financial aid.

Successfully Completed Credits: Credits for which a student receives a letter grade of A, B, C, D, and P are included in the calculation of cumulative completion percentage of credits successfully completed.

Credits Attempted But Not Successfully Completed: Credits for which a student receives a letter grade of I, NC, W, FN, FW, F, and Z shall be treated as credits attempted but not successfully completed. Audited courses (AU) are not counted as credits attempted.

Incompletes: A grade of incomplete (I) may be assigned at the discretion of an instructor only in extenuating circumstances. An incomplete grade is to be given only to students who cannot complete the coursework on schedule because of illness or other extenuating circumstances. Students interested in an incomplete grade must complete the "Request for Incomplete" form and submit it to the instructor for consideration. Instructors are responsible for deciding if it is appropriate and feasible to approve a request for an incomplete. An incomplete grade is a temporary grade and will automatically become an "F" grade at the end of the next term (includes summer), if requirements have not been satisfactorily met by the student. Instructors have the option of setting a completion date earlier than the end of the next term.

Grade Point Average (GPA): GPA is the quotient of the student's grade point total divided by the grade point credits. "P" does not carry a grade point value and as such is not calculated in the GPA. A "P" will neither raise nor lower a student's GPA. However, "P" counts toward registered and completed credits.

Grade Points: A letter grade is assigned at the end of the semester for each course in which the student is enrolled. A grade point value for each credit in the course is assigned to each letter grade. Only grades of A, B, C, D, FW, and F carry grade point value and shall be included in the GPA calculation.

Grade Point Total: The sum of grade points earned as determined by multiplying the grade point value of the grade by the number of course credits.

Fresh Start (Academic Amnesty): Credits for which students have been granted a Fresh Start (Academic Amnesty) shall be recorded and retained in the Student Data System in such a way that they will be included in

both the qualitative and/or quantitative measurements of financial aid satisfactory academic progress.

Audited Courses: Audited courses (AU) are not funded by financial aid and are not included in any financial aid satisfactory academic progress measurements.

Consortium Credits: Credits for which a student is registered at another college which are accepted for the purposes of processing financial aid are to be included for purposes of calculating satisfactory academic progress (cumulative GPA, completion percentage, and maximum time-frame calculations).

Remedial/Developmental Courses: Credits awarded for remedial or developmental course work (below 1000/100 level) shall be included in the qualitative and quantitative percentage measurement of satisfactory academic progress. Students may receive financial aid for these credits up to a maximum of 30 semester credit hours. Up to 30 remedial and developmental credits shall be excluded from maximum time frame calculation.

Repeated Courses: A student may repeat a course no more than two (2) times unless otherwise defined by program requirements. Repeating a course will not remove previous attempts from the student's transcript. The best grade will become the grade calculated for GPA purposes. All repeated credits are included in the completion percentage calculation for satisfactory academic progress and are taken into consideration when calculating maximum time frame. A student shall not be permitted to receive financial aid for more than one repetition of a previously passed course. In order for repeated courses to be calculated into a student's GPA, a passing grade must be earned. Repeating a course will not remove previously posted Satisfactory Academic Progress notations on the student's transcript.

Transfer Credits: Transfer credits are credits earned at another college which are accepted by NCTC.

Transfer credits accepted by NCTC and applied to the student's program requirements shall be counted as credits attempted and completed for calculation of cumulative completion percentage. Grades associated with these credits shall not be used in calculating cumulative GPA. Transfer credits will be counted when calculating the 150% timeframe if the credits apply towards the student's current degree, diploma, or certificate.

Withdrawals: Credits for which a grade of "W" is received are considered attempted credits but not successfully completed credits for the purpose of monitoring satisfactory academic progress. A "W" does not impact GPA, but does negatively impact the cumulative completion percentage.

3120 TRANSFER OF CREDIT

Transfer of credit to other colleges varies and is determined by the college to which the student is transferring.

Students transferring credit from another college or university to Northland Community and Technical College (NCTC) must request an official transcript of their grades be sent to the admissions office for evaluation. NCTC is able to access a student's transcript from other Minnesota State Colleges and Universities through eTranscript, provided the student does not have any outstanding financial obligations to that college or university.

Once a student has been admitted to NCTC, NCTC evaluates college-level course credits completed, as submitted by the student on an official transcript, and determines if they shall be accepted in transfer. Once the credits are accepted in transfer, NCTC determines how the course credits will apply to program and graduation requirements. Transfer of credit involves at least three considerations:

1. Educational quality of the learning experience which the student transfers,
2. Comparability of the course's content and stated learning outcomes, and if applicable, MnTC goals and competencies, and
3. Appropriateness and applicability of the learning experience to the programs selected by the student at NCTC.

Transfer credits from regionally accredited colleges or universities recognized by the Council on Higher Education Accreditation (www.chea.org) will be accepted to the college. NCTC will accept passing grades in transfer. Passing grades are identified as A, B, C, D, S, and P. Transfer courses with grades of A-D will be included in the GPA calculation for the Minnesota Transfer Curriculum (MNTC). These credits may or may not apply to specific program requirements.

Transfer credits from non-regionally accredited institutions may be accepted to the college upon student request. Submission, by the student, of appropriate documents may be required, such as syllabi, instructor credentials, formal mentoring from accredited college faculty, etc. These credits may or may not apply to specific program requirements. Transfer credits from a college or university outside of the United States may be accepted upon student request.

For acceptance of military credits, see policy #3150 & 3150P.

Students may appeal any decision regarding their transfer of credits. See Transfer of Credit Procedure #3120P.

3240 STUDENT COMPLAINTS AND GRIEVANCES

A student has the right to seek a remedy for a dispute or disagreement, including issues of institutional or program quality such as an institution's compliance with the standards of an accrediting agency, or a claim of consumer fraud or deceptive trade practices, through a designated complaint or grievance procedure. This policy does not apply to academic grade disputes. Grade appeals must be handled under the Grade Appeal Policy. Students are encouraged to use available informal resolution procedures before filing a complaint or grievance.

3240 PROCEDURE -- STUDENT COMPLAINTS AND GRIEVANCES

Definitions:

Appeal: A request for reconsideration of a grievance decision under Policy 3240, Procedure 3240, System Policy 3.8, and System Procedure 3.8.1.

Complaint: An oral or written claim concerning a college issue brought by a student alleging improper, unfair, or arbitrary treatment.

Grievance: A written claim raised by a student, alleging improper, unfair, or arbitrary action by an employee involving the application of a specific provision of a college rule/regulation or a board policy or procedure. This policy does not apply to those college rules/regulations or to board policies or procedures that include an appeal or grievance process.

Retaliation: Retribution of any kind taken against a student for participating or not participating in a complaint, or grievance.

Student: An individual who in enrolled in a college, a group of such individuals, or the campus student government.

Notification and Publication:

Northland Community and Technical College (NCTC) informs students of the established complaint and grievance policy and procedure through the Student Handbook and through its website.

Informal Resolution:

NCTC encourages informal resolution of complaints by requiring that students discuss the complaint with the employee(s), and/or administrator(s). If not resolved through this informal discussion, a complaint may become a grievance if the complaint involves the application of a college rule/regulation or a board policy or procedure.

Formal Resolution:

All appeals, complaints, and grievances not resolved informally must be submitted in writing to the campus registrar. Students are encouraged to use the Student Appeal form to submit formal appeals, complaints or grievances – they are located in Student Services and on the web. Appeals, complaints or grievances are reviewed by standing committees which report their findings directly to the student who has filed the appeal, complaint or grievance. Students may appeal the decision or recommendation through procedural steps listed below.

Committees:

NCTC has established standing committees to review appeals, complaints and grievances: campus Academic Appeal Committees and the Student Services Appeal Committee. These groups review student appeals if an informal discussion cannot produce an acceptable remedy. A student who feels that his/her right to an education is being affected unfairly due to the presence of a college academic or non-academic policy or procedure will be directed to the appropriate review committee.

Academic Appeal Committees:

These campus committees consider the validity of all student academic appeals. Topics appropriate for review by these committees include, but are not limited to: curriculum and instruction issues, suspension, credit transfer, graduation requirements, withdrawal date deadline adjustments and unresolved academic issues. Suspension appeals are dealt with in accordance with the guidelines outlined in the Satisfactory Academic Progress policy 3070.

Membership consists of a Registrar's Office representative, a Student Services representative, an Academic Dean, a member of the Academic Affairs and Standards Council, faculty representatives, an ADA specialist, and may include a student representative. Faculty should comprise 50% or more of the Academic Appeals Committees.

The committee chairs will be elected by majority vote of each committee (not an administrator). Each member

will hold one vote and the elected chair will only vote in the event of a tie. Committee members will refrain from voting if they have a conflict of interest with the issue being discussed. Any committee member directly involved with the appeal will not be in attendance during the review process.

Student Services Appeal Committee:

This committee's purpose will be to investigate and make recommendations to the College President's designee. Topics appropriate for review by this committee include, but are not limited to: appeals of nonacademic college policies and procedures (admissions, computer use, financial, etc.). Membership consists of a business office representative, financial aid representative, student services representative, an ADA specialist, faculty representatives, and may include a student representative.

The committee chair will be elected by majority vote (not an administrator). Each member will hold one vote and the elected chair will only vote in the event of a tie. Committee members will refrain from voting if they have a conflict of interest with the issue being discussed. Any committee member directly involved with the appeal will not be in attendance during the review process.

Steps for Filing

1. The college Student Appeal form (available from Student Services and on the web) should be accurately completed and returned to the campus registrar's office along with any supporting documentation.
   - Appeals concerning tuition, fees, and late withdrawals must be submitted by the end of the following term (Fall, Spring, Summer).

2. The campus registrar reviews the student appeal and assigns it to the appropriate committee or administrator.

3. If the appeal is directed to a committee, the committee appoints a member to gather information pertinent to the appeal and reports his or her findings to the committee.

4. Students have the right to present their case in person at the committee meeting. Students must notify the appropriate designee of their decision to present their case in person 24 hours prior to the date of the committee meeting. Students intending to bring another person who can provide information regarding the appeal to the meeting must notify the appropriate designee 24 hours prior to the date of the committee meeting.

5. The committee reserves the right to include other college personnel in the meeting to address issues of the appeal as needed.

6. The committees review and judge the merits of all information provided within 20 business days.

7. The Student Services Appeal committee makes recommendations to the college Dean of Student Affairs, who will inform the student of the outcome in writing within ten business days of the committee meeting.
   - The student may appeal the Student Services appeal decision of the college Dean of Student Affairs to the College President within ten business days of the Dean of Student Affairs' decision.

8. The Academic Appeal committee informs the student of the outcome in writing within ten business days of the committee meeting.
   - The student may appeal the Academic Appeal Committee's decision to the Chief Academic Officer within ten business days of the committee's decision. The decision of the Chief Academic Officer is final. The decision of the Academic Appeal Committee or the CAO does not determine financial aid eligibility. Financial aid eligibility is determined through the reinstatement process as defined in Policy 3070.

Appeals to any administrator or designee must be submitted through the Registrar's Office and should include:

- Student name
- Student program
- Statement regarding why the committee decision should be reversed based on information previously considered.
- Completed Academic Improvement Plan, if necessary
- Copy of Academic Progress Conditions form, if any
- Related correspondence

Retaliation:

No retaliation of any kind shall be taken against a student for participating, or refusing to participate, in

an appeal, complaint or grievance. Retaliation may be subject to action under appropriate student or employee policies.

Administrative Complaint Statement and Reference to Policy:

Appeals of federal, state, and Minnesota State policies and procedures will be directed to the College President or designee for referral to the appropriate federal or state agency. If the grievance involves a board policy, the actions of NCTC's President or Chief Academic Officer, an issue of institutional or program quality such as an institution's compliance with the standards of an accrediting or licensing agency, or a claim of consumer fraud or deceptive trade practice, a student may further appeal the College decision to the Chancellor. The decision of the Chancellor is final and binding.

3260 STUDENT LEAVE/ABSENCE

STUDENT RIGHTS AND RESPONSIBILITIES:

Students are expected to regularly attend the classes for which they are registered, and familiarize themselves with instructors' individual attendance policies. It's the responsibility of students to initiate and follow through on direct communication with instructors about any type of absence for which they desire accommodations. Students have the right to avoid suffering irreversible grade penalties when certain conditions are met; namely, those connected to Student Leave and College-Sanctioned Activity absences (detailed below).

INSTRUCTOR RIGHTS AND RESPONSIBILITIES:

Instructors determine specific class policies and procedures regarding absences from scheduled class meetings (lectures, labs, exams, etc.), and they are responsible for providing these policies and procedures to students. Instructors have extensive freedom and flexibility in this regard, so their policies may differ considerably with respect to such things as whether prior notification of absence is required, whether supporting evidence is required, whether make-up work will be allowed, whether and what kinds of grade penalties will be assessed, and so on. Instructors also have a responsibility to ensure that their policies and procedures are reasonable, and to ensure that they are applied and enforced fairly and consistently.

STUDENT LEAVE/COLLEGE-SANCTIONED ACTIVITY ABSENCES:

Student Leave is a series of one or more absences for a defined purpose that, when granted, is considered an approved or legitimate period of absences. Whether a series of absences is to be considered Student Leave or not will be determined on a case-by-case basis by individual instructors, though federal or state regulations may mandate some types of Student Leave to be granted under certain conditions (such as military leave, pregnancy leave, parental leave, jury duty, etc.).

College-Sanctioned Activities are scheduled activities including (but not limited to): academic conferences, athletic competitions, class field trips, club-related activities, musical performances, and program-related exams or activities. These types of special activities can create scheduling conflicts internal to the college, in which case the students' participation in special activities is generally encouraged.

When facing absences due to College-Sanctioned Activities or when requesting absences to be considered as Student Leave, students are responsible for notifying instructors as far as possible in advance, supplying relevant supporting documentation if requested, and working within their instructors' class policies and procedures. Instructors may require advance work or make-up work, they may impose deadlines, or they may set other reasonable conditions for the students' work, as long as students who meet their responsibilities are given the opportunity to avoid suffering irreversible grade penalties from these types of absences.

In the special case of extreme short notice of scheduling, it may be unreasonable for instructors to require advance work, but it is generally still reasonable to expect students to notify instructors as soon as they become aware of the need to be absent and then follow through with the rest of the procedures in a timely manner.

Accommodations agreements made between instructors and students, as well as any relevant supporting documentation, should be recorded and preserved whenever possible, especially in the case of extended Student Leave (which may also, depending on the agreement, require forms to be filed with the Registrar).

OTHER ABSENCES:

Instructors are not required to make accommodations for absences that are neither Student Leave nor due to

College-Sanctioned Activities. Other types of absences are handled according to individual class policies, as allowed by the rest of this policy.

Students who do not intend to regularly attend a class for which they are registered are strongly encouraged to Drop or Withdraw, in accordance with Policy 2090 (Drop/Add, Withdrawal & Refund).

Students who fail to regularly attend a class for which they are registered without making sufficient arrangements with the instructor and without Dropping or Withdrawing from the course may be Failed for Non Attendance (assigned an FN grade) or Unofficially Withdrawn (assigned an FW grade) by the instructor, in accordance with Policy 2092 and Procedure 2092P (No Show/Last Date of Attendance).

APPEALS PROCEDURE:
Students who disagree with an instructor's attendance policy (or enforcement thereof) should pursue their complaints through the usual process for appeals of student grievances, first by pursuing an informal resolution and then, if needed, filing a formal complaint or grievance with the program or college. For details on the college appeal procedure see Policy 3240 and Procedure 3240P (Student Complaints and Grievances).

If an individual instructor's class policy is found to conflict with this policy, this policy will take precedence over the class policy. Likewise, if this policy is found to conflict with a state or federal regulations, those regulations will take precedence over this policy.

View all College policies and procedures at www.northlandcollege.edu/about-northland/policies-and-procedures.