



# 13-14

*curriculum guide*

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# What You Will Learn at North Central Michigan College

Associate degree programs at North Central are designed to provide students with a solid foundation for launching their careers or transferring to a four year university. When you have earned your associate's degree, you will have gained, and will be able to demonstrate, knowledge and skills in the following areas:

- Broad integrative knowledge in the a range of academic disciplines. In gaining this knowledge, you will learn to do the following:
  - o Describe how existing knowledge or practice is advanced, tested and revised
  - o Describe different perspectives on key debates and understand their significance both within your field of study and in society.
  - o Illustrate core concepts in your field by performing analytical, practical or creative tasks.
  - o Select and apply methods for solving problems in your field of study.
  - o Assemble, evaluate and analyze evidence related to problems in your field of study.
  - o Describe how at least two different fields approach the challenges we face in our world today.
- Specialized knowledge in a focused area of study. Through your academic program you will learn to do the following:
  - o Describe the scope and principal features of your field of study and at least one other field.
  - o Understand and use contemporary terminology used in the field.
  - o Generate work products that are substantially error-free.
- Intellectual skills. Your studies at North Central will enable you to do the following:
  - o Identify, categorize and compare ideas, concepts, theories and practical approaches to standard problems.
  - o Identify, evaluate and use information from many resources.
  - o Describe how your knowledge of different cultural perspectives can help you to interpret problems and solutions in the modern world.
  - o Perform and explain accurate calculations and symbolic operations.
  - o Write error-free prose in various forms and for various audiences.
- Applied knowledge gained in the classroom to real world settings. You will learn to apply the knowledge gained in the classroom to real-world settings as you do the following:
  - o Describe in writing a substantial case in which classroom knowledge was applied in a non-academic setting.
  - o Find, collect and organize evidence on an assigned topic that addresses a problem in a work or community setting.
- Community engagement and civic learning. Your education at North Central will enable you to do the following:
  - o Describe your own civic and cultural background.
  - o Describe diverse positions and present your own position on a specific problem where other values or practices are involved.
  - o Take an active role in a community context (work, service, co-curricular activities, etc.), examines the civic issues you encounter, and the insights you have gained.

# Degrees Conferred at North Central Michigan College

**Associate of Arts (AA):** A degree designed to transfer to a four-year college or university by delivering typical freshman and sophomore year general education coursework. An AA degree is not awarded in a specific subject area, but its foundational courses allow the student to major in a subject area in his/her junior year.  
(Program Code: 300)

**Associate of Science (AS):** A degree similar to the AA degree, but with a strong emphasis on the natural sciences and mathematics. It is designed for the student who will transfer to a four-year college or university to pursue studies of a scientific nature.  
(Program Code: 400)

**Associate of Applied Science (AAS):** A degree designed for the student who plans to pursue a career or advance his/her career immediately upon graduation. Students planning to pursue a bachelor's degree using the AAS as a foundation should carefully choose their coursework with an advisor to maximize transferability. The AAS degree is awarded in specific areas of expertise, e.g., the AAS in Business Management and Early Childhood Education.

**Associate of General Studies (AGS):** A degree designed for the student wishing flexibility in defining specific educational objectives. It can accommodate the student who plans to transfer as well as one who wishes to pursue a career immediately upon graduation. The AGS degree is not awarded in a specific subject area.  
(Program Code: 600)

**Certificate:** A short-term career program. Most certificates are composed of 10 courses, half the number in the typical associate's degree. Often certificates can be earned in one year of full-time enrollment; however, the time may be longer if a student attends part-time. Credits earned toward a certificate can be used to earn an associate's degree in the same area.

**Certificate of Development:** A Certificate of Development has fewer than 30 credit hours and indicates a basic understanding of a subject or a specific skill.

Not sure which path is right for you? Exploring your options is much more effective when you do it with an experienced guide. North Central's academic advisors and counselors can help you set goals and develop a map for achieving them. Call 888-298-6605 or 231-348-6605.

## Degree Programs: Requirements at a Glance

	Associate of Arts	Associate of Science	Associate of General Studies	Associate of Applied Science
<b>English Composition</b>	ENG 111 & ENG 112	ENG 111 & ENG 112	ENG 111 & ENG 112	ENG 111 & ENG 112
<b>Communication</b>	COM 111	COM 111	COM 111 or COM 170	COM 111 or COM 170
<b>Mathematics</b>	MATH 112 or MATH 120 or Above	MATH 130 or Above	MATH 110 or B104	Varies by Program
<b>Humanities</b>	1 course from 3 disciplines: ART 105, 106 or 115 HST 131 or 232 PHL 101 or 105 REL 100 ENG 130 or 231 MU 120 THF 101 LANGUAGES Other than English at the 111 level or above (excludes NISH 150,190, 245)	1 course from 3 disciplines: ART 105, 106 or 115 HST 131 or 232 PHL 101 or 105 REL 100 ENG 130 or 231 MU 120 THF 101 LANGUAGES Other than English at the 111 level or above (excludes NISH 150,190, 245)	One Course Refer to MACRAO Humanities Category on Page9	Varies by Program
<b>Science</b>	2 lab courses from 2 disciplines: BIO 101 or above CEM 101 or above ESC 101 or above PHY 101 or above	2 lab courses from 2 disciplines: BIO 101 or above CEM 101 or above ESC 101 or above PHY 101 or above	One Science Course Refer to MACRAO Science Category on Page 9	Varies by Program
<b>Social Science</b>	3 courses from the following list: ANP110 ECO1 11 GEO121 PLS 141 PSY 161 SOC171	3 courses from the following list: ANP110 ECO1 11 GEO121 PLS 141 PSY 161 SOC171	One Course Refer to MACRAO Social Science Category on Page9	Varies by Program
<b>Electives</b>	19-21	19-21 including 16 credits of additional science and math higher than MATH130	36-39 credits	
<b>MACRAO</b>	Satisfied	Satisfied	May be filled by using electives	May be filled by using electives. ECE AAS satisfies the MACRAO

***The associate's degrees listed above require the following:***

A minimum of 60 semester credit hours;

A minimum of 15 semester credit hours taken from North Central;

A minimum cumulative grade point average of 2.0;

No more than two credits in Physical Education area.

# General Education

The general education requirements at North Central provide a foundation for students in core areas of study. All students are required to take English composition courses in order to learn to write effectively; a communications course to enhance their verbal skills; and a mathematics course to learn skills in logic, conceptual operations, and accurate calculation.

In addition to English, communication and mathematics, students gain a broad orientation to academic disciplines by taking a selection of courses in the humanities, sciences, and social sciences.

The Humanities focus on the study of the human condition and help us to understand our lives and world, using methods that are primarily analytical, critical, or contemplative. Humanities disciplines include modern languages, literature, history, philosophy, religion, and the visual and performing arts.

The Sciences explore the scope and major concepts of a scientific discipline such as biology, chemistry, earth science or physics. In these courses, students learn the attitudes and practices of scientific investigators, including logic, precision, experimentation, tentativeness, and objectivity. The laboratory component of these courses provides experience in the methods of scientific inquiry.

The Social Sciences are academic disciplines that focus on society and human behavior. Social and behavioral sciences use observational and experimental methods to understand the actions and reactions of humans and animals. Fields of study within the social sciences include anthropology, economics, geography, and psychology. General Education Distribution Requirements for the Associate of Arts and Associate of Science Degrees include 26 credits selected as described from the following categories:

## ***Science – 2 lab courses from two disciplines selected from the following list:***

BIO	101 (or above)	Introduction to Biology	(4)
CEM	101 (or above)	Fundamentals of Chemistry	(4)
ESC	101 (or above)	Introduction to Earth Science	(4)
PHY	101 (or above)	Concepts in Physics	(4)

## ***Social Science – 3 courses from the following list:***

ANP	110	Cultural Anthropology	(3)
ECO	111	Macroeconomics	(3)
GEO	121	World Geography	(3)
PLS	141	Introduction to American Government	(3)
PSY	161	Introduction to Psychology	(3)
SOC	171	Introduction to Sociology	(3)

## ***Humanities – 3 courses, no more than 1 course from each category:***

### **ART**

ART	105	History of Art I	(3)
ART	106	History of Art II	(3)
ART	115	History of Non-Western Art	(3)

### **HISTORY**

HST	131	U.S. History (1607-1877)	(3)
HST	232	Survey of Later Western Civilization	(3)

### **PHILOSOPHY**

PHL	101	Introduction to Philosophy	(3)
PHL	105	Introduction to Ethics	(3)

### **RELIGION**

REL	100	World Religion	(3)
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**ENGLISH**

ENG	130	Introduction to Literature	(3)
ENG	231	American Literature I	(3)

**LANGUAGES OTHER THAN ENGLISH**

FR	111 (or above)	French	(4)
NISH	111 (or above)	Anishnaabemowin (Excludes NISH150, 190, 245)	(4)
SPAN	111 (or above)	Spanish	(4)
RUS	111 (or above)	Russian	(4)

**MUSIC**

MU	120	History of Music	(3)
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**THEATRE**

THF	101	Survey of the Theatre	(3)
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# Associate's Degrees and the MACRAO Transfer Agreement

The Associate of Arts and Associate of Science degrees offered by North Central are designed to be equivalent to the first two years of study at a four-year institution. The distribution of courses duplicates the general education requirements at the senior institutions.

Transferability is essential since liberal arts education is an important part of North Central's mission. Course transferability from the categories below may vary by institution and program of study. While North Central students have the assurance of transfer agreements between colleges, it is important for each student to meet with an advisor at both North Central and the four-year transfer institution. The MACRAO website at [www.macrao.org](http://www.macrao.org) is maintained by the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO). It contains course equivalency information between colleges and universities and is easy to use. Many participating universities post on-line transfer guides on the MACRAO site.

The MACRAO Transfer Agreement allows for smooth transferability of courses among participating Michigan colleges and universities. It stipulates that 30 semester hours of 100-level and above compatible general coursework will satisfy typical freshman- and sophomore-level general education requirements for the bachelor's degree at participating universities. A number of the participating institutions have limitations, exceptions, or provisos to the MACRAO Agreement. The most current list can be found at [www.macrao.org](http://www.macrao.org).

A North Central student who completes the 30 credit hours for the MACRAO Transfer Agreement and who seeks to transfer to another institution must request that Student Services stamp his/her transcript "MACRAO Agreement Satisfied." Students transferring credits to North Central must complete a minimum of 15 credit hours of North Central coursework before the MACRAO Agreement can be satisfied.

## North Central courses satisfying the MACRAO Transfer Agreement by category:

### ***English Composition (6 credit hours):***

English 111 and English 112

### ***Science and Mathematics (8 credit hours):***

Must include a lab class and courses from at least two disciplines. Any course from the following: biology, chemistry; earth science, physics, physical science, geology; statistics; mathematics 100 and above.

### ***Social Sciences (8 credit hours):***

Must include courses from at least two disciplines. Any course from the following: anthropology, economics, geography, political science, psychology, sociology.

### ***Humanities (8 credit hours):***

Must include courses from at least two disciplines. Any course from the following: philosophy; religion; ART 105, 106; ENG 130, 213, 214, 215, 221, 222, 231, 232, 240, 241, 242, 244, 250, 251, 252, 255; HST; MU 120; THF 101, 276.

New courses may be created that also satisfy the MACRAO agreement. Check with Student Services for the MACRAO status of any course not appearing in the above listing.

# Associate of Arts (AA)

*Program Code 300*

The Associate of Arts degree is for students who plan to transfer to a four-year college or university.  
 The Associate of Arts degree is appropriate for most transfer programs leading to a bachelor's degree.

<b>General Education</b>		39-41 Credit Hours	
	<b>English</b>	6 credit hours	ENG 111 ENG 112
	<b>Communications</b>	3 credit hours	COM 111
	<b>Mathematics</b>	4 credit hours	Satisfied by one of the following: Math 112 or 120 or above, STAT 200 ACT Mathematics score of 23 or higher COMPASS Mathematics score of 171 or higher
	<b>Humanities</b>	9 credit hours	1 course from 3 disciplines: ART 105, 106 or 115 HST 131 or 232, PHL 101 or 105, REL 100 ENG 130 or 231, MU 120, THF 101 LANGUAGES other than English at the 111 Level or above (excludes NISH 150,190, 245)
	<b>Science</b>	8-9 credit hours	2 lab courses from 2 disciplines: BIO 101 or above, CEM 101 or above ESC 101 or above, PHY 101 or above
	<b>Social Science</b>	9-10 credit hours	3 courses from the following list: ANP 110, ECO 111, GEO 121 PLS 141, PSY 161, SOC 171
<b>General Electives</b>		19-21 credit hours	Electives should be carefully chosen.

To graduate with a degree, a student must complete the total number of credit hours required for the degree being sought, even if courses have been waived or competency has been demonstrated through ACT, COMPASS or CLEP testing scores.

\*When transferring to another college or university, you may be required to take the courses that were waived or competency demonstrated at North Central.

# Associate of Science (AS)

## Program Code 400

The Associate of Science degree is for students who plan to pursue a bachelor's degree in a science field.

<b>General Education</b>		39-41 Credit Hours	
	<b>English</b>	6 credit hours	ENG 111 ENG 112
	<b>Communications</b>	3 credit hours	COM 111
	<b>Mathematics</b>	4 credit hours	Satisfied by one of the following: Math 130 or above ACT Mathematics score of 26 or higher COMPASS Mathematics score of 171 or higher
	<b>Humanities</b>	9 credit hours	1 course from 3 disciplines: ART 105, 106 or 115 HST 131 or 232, PHL 101 or 105, REL 100 ENG 130 or 231, MU 120, THF 101 LANGUAGES other than English at the 111 Level or above (excludes NISH 150,190, 245)
	<b>Science</b>	8-9 credit hours	2 lab courses from 2 disciplines: BIO 101 or above, CEM 101 or above ESC 101 or above, PHY 101 or above
	<b>Social Science</b>	9-10 credit hours	3 courses from the following list: ANP 110, ECO 111, GEO 121 PLS 141, PSY 161, SOC 171
<b>Science and Mathematics Electives</b>		16 credit hours	Additional science, mathematics and statistics electives are required. Only math courses higher than MATH 130 are eligible as an elective.
<b>General Electives</b>		3-5 credit hours	Electives should be carefully chosen.

To graduate with a degree, a student must complete the total number of credit hours required for the degree being sought, even if courses have been waived or competency has been demonstrated through ACT, COMPASS or CLEP testing scores.

\*When transferring to another college or university, you may be required to take the courses that were waived or competency demonstrated at North Central.

# Associate of General Studies (AGS)

## Program Code 600

The Associate of General Studies degree is for students who wish to earn an associate's degree in preparation for transfer to a college or university or who are following a planned bachelor's degree program with a North Central University Center partner. Students intending to transfer to a Michigan college or university should use electives to satisfy the MACRAO Agreement. An AGS may not be earned concurrently with an AA or AS.

This degree is also ideal for the general studies student who has attended several other colleges and universities and wishes to complete a two-year degree.

<b>General Education</b>		21-24 Credit Hours	
	<b>English</b>	6 credit hours	ENG 111 ENG 112
	<b>Communications</b>	3 credit hours	COM 111 or COM 170
	<b>Mathematics</b>	3-4 credit hours	Satisfied by one of the following: Any Mathematics course above 100 B 104 ACT Mathematics score of 21 or higher COMPASS Mathematics score of 146 or higher
	<b>Humanities</b>	3 credit hours	See Humanities Category in MACRAO Agreement Page 9
	<b>Science</b>	3-4 credit hours	See Science Category in MACRAO Agreement Page 9
	<b>Social Science</b>	3-4 credit hours	See Social Science Category in MACRO Agreement Page 9
<b>General Electives</b>		36-39 credit hours	Electives should be carefully chosen.

To graduate with a degree, a student must complete the total number of credit hours required for the degree being sought, even if courses have been waived or competency has been demonstrated through ACT, COMPASS or CLEP testing scores.

\*When transferring to another college or university, you may be required to take the courses that were waived or competency demonstrated at North Central.

# Charting Your Path to a Bachelor's Degree

North Central offers three degree programs for students who plan to transfer to senior institutions: the Associate of Arts, Associate of Science and Associate of General Studies.

North Central students have the assurance of transfer agreements between colleges, along with curriculum guides and an important website, [www.macrao.org](http://www.macrao.org), to verify the transferability of courses. The website is maintained by the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) and is easy to use. Participating colleges and universities post on-line transfer guides on the MACRAO site.

North Central students who expect to transfer to a senior institution should plan their programs of study with the help of a North Central academic advisor or counselor and an admissions advisor from the college or university they wish to attend.

Suggestions for transferring are contained in this catalog to help students select courses that may be applied toward the requirements of bachelor's degrees at other institutions. These should not be considered a replacement for transfer guides from the senior institutions.

## Checklist for Transferring

- Identify the four-year college or university of your choice as early as possible.
- Meet with North Central counselors and academic advisors to keep current with transfer issues, to satisfy your associate degree requirements and to ensure transferability of courses.
- Attend transfer events. Meet with representatives from Michigan's four-year universities. Visitation dates and scholarship information are listed on the College's website, posted on bulletin boards throughout campus and posted in Student Services.
- Follow the transfer guide, prepared by the four-year university, which lists course requirements for your specific transfer program. Inquire about the MACRAO Agreement. Check out [www.macrao.org](http://www.macrao.org).
- Apply to the four-year college or university of your choice in a timely manner. Many applications for admission are available online at [www.macrao.org](http://www.macrao.org).

# Business Administration

## AA Degree

Students considering a bachelor's degree in the areas of Accounting, Business Administration, Management, Marketing, and Management/Computer Information Systems should consider the following recommendations for fulfilling degree requirements at North Central Michigan College.

Every college and university has its own specific requirements for admitting students to business studies. Admission is often competitive and begins after the student has completed the freshman and sophomore years. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

Lake Superior State University offers a variety of bachelor's completion programs in business on the campus of North Central Michigan College. Students considering the LSSU program are advised to follow specific curriculum guide sheets developed by LSSU. Contact Student Services, 231-348-6605, or Lake Superior State University's Petoskey office, 231-348-6623, to obtain a guide sheet.

## Pre-Business

### ***Recommendations for fulfilling General Education requirements:***

For Social Sciences Group A, choose ECO 111

### ***Recommendations for fulfilling General Electives:***

ECO 112	MATH 130
B 211	MATH 140
B 212	M 200
B 290	B 200
CIS 100	STAT 200

# Human Services and Social Sciences

## Teacher Certification Programs in Education

Students planning to become teachers are admitted to a College or School of Education no earlier than their junior year. Teacher education includes Elementary, Secondary and Special Education. The freshman and sophomore years of pre-teaching differ widely between universities, so students are advised to consult with an academic advisor at North Central when choosing courses. All teacher education applicants are required to take and pass all three sections of the Basic Skills portion of the Michigan Test for Teacher Certification (MTTC).

## Pre-Teaching: Elementary Education

An elementary education teaching degree from Spring Arbor University is offered in its entirety on the campus of North Central Michigan College. A very specific list of required courses for that program is provided on a curriculum guide sheet. Students must follow the guide for this specific program rather than the recommendations below.

The Spring Arbor University elementary education degree includes an optional ZA (early childhood) endorsement for students wishing to specialize in grades Kindergarten through Grade 3 using 12-15 credits from North Central's Early Childhood Education department offerings. Contact Student Services at 231-348-6605 or Spring Arbor University's University Center Office at 231-439-6205.

Students wishing to pursue a bachelor's degree in elementary education at universities other than Spring Arbor should consult with an academic advisor and consider enrolling in these suggested courses while satisfying their general education requirements:

For Communications, choose COM 111

For Social Sciences, choose PSY 161, GEO 121, and PLS 141

For Humanities, choose HST 131, HST 231 or HST 232, ENG 130, ENG 240

For Mathematics, choose MATH 125 and MATH 126

For Electives, consider ART 120, PSY 255, ED 100

### **Pre-Teaching: Secondary Education**

A secondary education teaching degree from Spring Arbor University is offered entirely on the campus of North Central Michigan College. The freshman and sophomore year courses are taken with North Central and include a specific group of courses. Students pursuing this option should closely follow the courses outlined on the curriculum guide sheet available from Student Services at 231-348-6605 or at the Spring Arbor office on campus at 231-439-6203. Students wishing to pursue a bachelor's degree in secondary education at universities other than Spring Arbor should consult with an academic advisor and consider enrolling in these suggested courses while satisfying their general education requirements:

For Communications, choose COM 111

For Natural Science Group A, choose either BIO 101 or BIO 133

For Social Sciences, choose PSY 161, PLS 141

For Electives, choose ED 100, PSY 261 and courses building on the teachable major/minor

### **Michigan Basic Skills Test**

This test is administered four times per year at various test sites in Michigan. Some teacher education programs recommend that prospective students take the Michigan Basic Skills Test as early as the October test date of their freshman year; others recommend taking the test early in the sophomore year. These early recommendations allow students who fail part or all of the Basic Skills Test to have a chance to remediate and take it again before their junior year. To learn more about the Michigan Basic Skills Test, test dates and sites, and to register for the Michigan Basic Skills Test, go online to: [www.mttc.nesinc.com](http://www.mttc.nesinc.com).

## **Human Services**

### **AA Degree**

Students considering a bachelor's degree in the areas of social work, criminal justice, early childhood education, and related human services fields should use these recommendations when fulfilling degree requirements at North Central Michigan College.

### **Criminal Justice**

A bachelor's degree in Criminal Justice, with Law Enforcement emphasis, is offered by Lake Superior State University. The majority of the coursework can be completed on the campus of North Central Michigan College. Students pursuing this option should closely follow the courses outlined on the curriculum guide sheet available through Student Services (231-348- 6605) or the North Central Gaylord office at the University Center at Gaylord.

Students wishing to pursue a bachelor's degree in criminal justice at universities other than Lake Superior State or Madonna should consult with an academic advisor and consider enrolling in these suggested courses while satisfying their general education requirements:

For Communications, choose COM 111

For Natural Science Group A, choose either BIO 101 or BIO 133

For Social Sciences, choose PSY 161, PLS 141, GEO 121

For Humanities, include REL 100 and PHL 109

For electives: CIS 100, CJ 101, 102, 120, 130, 202, 207; SOC 120, SOC 171, SOC 230, STAT 200

## Early Childhood Education

A bachelor's degree in Early Childhood Education is available in its entirety through Lake Superior State University on the campus of North Central Michigan College. A list of required courses for that program, incorporating North Central's Associate of Applied Science in Early Childhood Education, is provided on a curriculum guide sheet. Students should contact the Early Childhood Education Coordinator (231-439-6224), Student Services (231-348-6605) or LSSU's Petoskey office at 231-348-6623. Students wishing to pursue the LSSU bachelor's degree should take the following General Education course:

For Communications, choose COM 111

For Natural Science, choose BIO 133

For Social Science, choose SOC 171

## Pre-Social Work

Social Work studies, like teacher education, begin in the junior year. There are two options to completing the bachelor's degree in social work (BSW) in northern Michigan.

Spring Arbor University offers a bachelor's degree in social work (BSW) that students can complete entirely on the campus of North Central Michigan College. Specific courses are required in the freshman and sophomore years from North Central to enter this degree program. Students should follow the course guide sheets that can be obtained in Student Services (231-348-6605) or through Spring Arbor's Petoskey office (231-439-6205).

At the University Center at Gaylord, Madonna University offers a bachelor of social work (BSW) degree. A course guide sheet is available through Student Services (231-348-6605) or the North Central office at the Gaylord University Center.

Students wishing to pursue a bachelor's degree in social work at universities other than Spring Arbor or Madonna should consult with an academic advisor and consider enrolling in these suggested courses while satisfying their general education requirements:

For Communications, choose COM 111

For Natural Science Group A, choose either BIO 101 or BIO 133

For Social Sciences, choose PSY 161, SOC 171, ECO 111

## Social Sciences

### AA Degree

Students considering a bachelor's degree in the areas of geography, political science, psychology, sociology, anthropology, history, economics, and related disciplines should follow these recommendations when fulfilling degree requirements at North Central Michigan College.

Every college and university has its own specific degree requirements for this large array of majors. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

Lake Superior State University offers a bachelor's completion program in liberal studies with emphases in public relations and in public administration, as well as a bachelor's in individualized studies on the campus of North Central Michigan College. Students considering the LSSU program are advised to follow specific curriculum guide sheets developed by LSSU. Contact Student Services to obtain a guide sheet.

### ***Recommendations for General Electives – choose according to your intended major:***

MATH 130

STAT 200

SPAN 111, 112, 211 or

FR 111, 112, 211

ANP 110

ANP 130

ANP 161

ANP 210

ECO 111

ECO 112

GEO 111

GEO 121

HST 131

HST 132

HST 270

PLS 141

PLS 200

PSY 161

PSY 241

PSY 255

PSY 261

SOC 120

SOC 161

SOC 230

SOC 270



# Associate of Science

The Associate of Science degree is for students who plan to pursue a bachelor's degree in a science field.

## General Education

**39-41 credit hours**

See elsewhere in this catalog for courses fulfilling general education distribution requirements

## Communications

**9 credit hours**

ENG 111  
ENG 112  
COM 111

## Humanities

**9 credit hours**

**1 course from 3 disciplines:**

ART 105, 106 or 115  
HST 131 or 232  
PHL 101 or 105  
REL 100  
ENG 130 or 231  
MU 120  
THF 101

Languages Other Than English at the 111 Level or Above

## Social Sciences

**9-10 credit hours**

**3 courses from the following list:**

ANP 110  
ECO 111  
GEO 121  
PLS 141  
PSY 161  
SOC 171

## Natural Sciences

**8-9 credit hours**

**2 lab courses from 2 disciplines:**

BIO 101 or above  
CEM 101 or above  
ESC 101 or above  
PHY 101 or above

## Mathematics

**4 credit hours**

**Satisfied by one of the following:**

MATH 130 or higher  
ACT Math score of 26 or higher  
COMPASS Math score of 246 or higher

## Science and Mathematics Electives

**16 credit hours**

Additional science, mathematics and statistics electives are required. Only mathematics course above MATH 130 can be used for an elective in this category.

## General Electives

**3-5 credit hours**

Electives should be carefully chosen. Refer to the transfer guides listed after each program of study.

To graduate with a degree, a student must complete the total number of credit hours required for the degree being sought, even if courses have been waived or competency has been demonstrated through ACT, COMPASS or CLEP testing scores.

NOTE: When transferring to another college or university, you may be required to take the courses that were waived or competency demonstrated at North Central.

# Health Science and Professions

## AS Degree

Students considering a bachelor's degree in the areas of pre-medicine, pre-dentistry, pre-veterinary medicine, pre-pharmacy, physical therapy, physician's assistant, health fitness, dietetics and nutrition, or other related health fields should follow these recommendations when fulfilling degree requirements at North Central Michigan College.

Every college and university has its own specific degree requirements for this large array of majors. Admittance into some of these fields, such as physical therapy and physician's assistant, begin at the junior year and are very competitive. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

### **Pre-Medicine, Pre-Dentistry, Pre-Veterinary Medicine, Pre-Pharmacy**

#### ***Recommendations for fulfilling General Education requirements:***

For Natural Sciences Group A, choose BIO 151, and for Group B choose CEM 121

#### ***Recommendations for fulfilling Science and Mathematics electives:***

BIO 152	CEM 231	PHY 210	MATH 140
CEM 122	CEM 232	PHY 211	MATH 150

### **Pre-physical therapy & Pre-physician's assistant**

#### ***Recommendations for fulfilling General Education requirements:***

For Natural Sciences Group A, choose BIO 235, and for Group B, choose CEM 121

For Social Sciences Group A, choose PSY 161

#### ***Recommendations for fulfilling Science and Mathematics electives:***

BIO 236	CEM 122	PHY 210*	CEM 231**
CEM 121	PSY 261	PHY 211*	

\* Only for Physical Therapy

\*\* Only for Physician's Assistant

# Engineering

## AS Degree

Students considering a bachelor's degree in one of the many engineering disciplines—electrical, mechanical, aeronautical, manufacturing, computer, chemical—should follow these recommendations when fulfilling degree requirements at North Central Michigan College.

Every college and university has its own specific degree requirements for this large array of majors. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

### **Pre-Engineering**

#### ***Recommendations for fulfilling General Education requirements:***

For Natural Science Group A, choose BIO 101

For Natural Sciences Group B, choose PHY 230 and PHY 231

For Social Sciences Group A, choose ECO 111

For Humanities, choose PHL 102 or PHL 109

#### ***Recommendations for Science and Mathematics Electives:***

CEM 122	MATH 140	MATH 210	MATH 225
PHY 231	MATH 150	MATH 215	

### **North Central Pre-Engineering:**

North Central has developed curriculum guides for students wishing to transfer into Engineering at several Michigan universities. These guides can be found at [www.ncmich.edu/catalog/pre\\_engineering/Preengineering.pdf](http://www.ncmich.edu/catalog/pre_engineering/Preengineering.pdf) and cover the following universities:

- University of Michigan
- Michigan State University
- Western Michigan University
- Lake Superior State University
- Central Michigan University
- Michigan Technological University
- Lawrence Technological University

You should always check with the four-year university for the most current information.

#### ***Recommendations for General Electives:***

CIS 115

## **Information Technology**

### **AA/AS Degree**

Students considering a bachelor's degree in the areas of Computer Information Systems should consider the following recommendations for fulfilling degree requirements at North Central Michigan College.

Every college and university has its own specific requirements for admitting students to business studies. Admission is often competitive and begins after the student has completed the freshman and sophomore years. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

Lake Superior State University offers a variety of bachelor's completion programs in business on the campus of North Central Michigan College. Students considering the LSSU program are advised to follow specific curriculum guide sheets developed by LSSU. Contact Student Services, 231-348-6605, to obtain a guide sheet.

### **Pre-Computer Information Systems**

#### ***Recommendations for fulfilling General Education requirements:***

For Social Sciences Group A, choose ECO 111

#### ***Recommendations for filling General Electives:***

ECO 112  
B 211

B 212  
CIS 100

CIS 105  
CIS 115

MATH 130

# Natural Sciences

## AS Degree

Students considering a bachelor's degree in the areas of biology and natural resources, chemistry, Earth sciences and geology, environmental sciences and physics should follow these recommendations when fulfilling requirements for the degree at North Central Michigan College.

Every college and university has its own specific degree requirements for this large array of majors. Students are advised to work closely with an advisor from both North Central and the transfer institution to make sure they choose proper coursework.

### ***Recommendations for fulfilling Science and Mathematics Electives:***

#### Biology

Select BIO 151 for Group A Natural Sciences	BIO 226
Select CEM 121 for Group B Natural Sciences	BIO 265
BIO 152	MATH 140
BIO 233	CEM 122

#### Chemistry

Select PHY 230 for Group B Natural Sciences	CEM 232
CEM 121	MATH 140
CEM 122	MATH 150
CEM 231	PHY 231

#### Earth Science and Geology

Select ESC 121 for Group B Natural Sciences	CEM 121
ESC 101	CEM 122
ESC 122	PHY 101
ESC 201	PHY 210
MATH 140	PHY 211

#### Environmental Sciences and Natural Resources

Select BIO 151 for Group A Natural Sciences	BIO 265
Select CEM 101 or 121 for Group B Natural Sciences	CEM 122
BIO 152	CEM 231
BIO 233	CEM 232
	MATH 140

#### Physics and Astronomy

Select CEM 121 for Group B Natural Sciences	MATH 140
ESC 201	MATH 150
PHY 230	MATH 210
PHY 231	MATH 215
CEM 122	Select for a General Elective: CIS 100

# Charting Your Path to a Career Program

North Central offers a number of career programs for students seeking the education and skills to enter the job market or to advance their current careers.

Students selecting career programs can earn a certificate of development, certificate or an associate of applied science degree.

Career programs are designed primarily to prepare students for the workplace rather than to transfer to a four-year college or university. However, many career courses and programs will transfer to other colleges and universities through articulations and special agreements. For more information on transferability options, consult with the advisors and counselors in Student Services.

## Certificate of Development Programs

North Central offers several certificates of development. These are fewer than 30 credit hours in length and help the student develop specific skills and knowledge.

## Certificate Programs

Most certificate programs require 30 credit hours and can be completed with two semesters of full-time study. Many certificates follow a prescribed sequence that starts in the fall semester and is completed at the end of the winter semester. It is very important that students work with an advisor, as these programs often do not provide a great deal of flexibility. A certificate is not the same as a licensing exam or certification awarded by a national or regional accrediting association, although some programs prepare students to take licensing exams or participate in certification processes.

## Associate of Applied Science Degrees

All associate of applied science degrees require the following:

- A minimum of 60 credit hours
- A minimum of 15 credit hours taken from North Central
- A minimum cumulative grade point average of 2.0
- No more than 2 credit hours of physical education
- General education requirements
- Program requirements
- Additional requirements
- Related electives

## Career Program Checklist

- Meet with the lead faculty or coordinator for your career area early in your studies. Keep in frequent contact with this person to stay current with scheduling and upgrades to the program.
- Follow information as presented in the most current North Central catalog so that you take the proper prerequisite courses.
- Check with the lead faculty or coordinator for your program about the sequencing of courses for upcoming semesters so that you can graduate in a timely manner.
- If necessary, plan ahead for your work-based learning or internship experience by making an appointment with your faculty advisor coordinator well in advance of the semester in which you plan to enroll. Note that some career programs no longer require work-based learning.

# Career Programs

## Art and Communications

- 132 Art - Fine Craft (C)
- 133 Art - Studio Art (C)
- 131 Communications (C)
- 113 Graphic Arts (CD)
- 112 Textiles (CD)

## Business Administration

- 205 Accounting (AAS)
- 105 Accounting Assistant (C)
- 110 Advertising Assistant (C)
- 119 Business Development (CD)
- 220 Business Management (AAS)
- 151 Entrepreneurship (C)
- 142 Entrepreneurship Essentials (CD)
- 165 General Office Professional (C)
- 218 Hospitality and Casino Mgmt. (AAS)
- 118 Hospitality and Casino Mgmt. (C)
- 117 Hotel and Hospitality (CD)
- 149 Management (C)
- 245 Marketing (AAS)
- 135 Marketing Assistant (C)
- 109 Microsoft Office Specialist ((CD)
- 111 New Media (CD)
- 277 Office Administrative Services (AAS)
- 270 OAS Medical Office Emphasis
- 158 Office Support Specialist (CD)
- 159 Receptionist (CD)
- 150 Small Business Mgt. (C)
- 290 Wooden Boat Building (AAS)

## Information Technology

- 116 Computer Aided Design (C)
- 114 CCNA Certification Preparation (CD)
- 243 Computer Information Systems (AAS)
- 162 Computer Information Systems (C)
- 282 Computer Networking (AAS)
- 182 Computer Networking Administrator (C)
- 238 Computer Support Specialist (AAS)
- 148 Computer Support Specialist (C)
- 236 Geographic Information Systems (AAS)

## Human Services/Social Sciences

- 127 Corrections (State) (CD)
- 225 Criminal Justice (AAS)
- 226 CJ – Law Enforcement w/ NMC (AAS)
- 227 CJ – Law Enforcement w/ KCC (AAS)
- 125 Law Enforcement Aide (C)
- 280 Early Childhood Education (AAS)
- 276 Legal Assistant (AAS)
- 177 Legal Assistant (CD)

## Health Sciences/Allied Health

- 197 Certified Nurse Aide (CD)
- 253 EMS/Paramedic (AAS)
- 153 EMS/Paramedic (C)
- 152 EMS/Basic (CD)
- 053 EMT (non-degree)
- 180 Medical Assistant (C)
- 179 Medical Billing and Coding (CD)
- 163 Medical Transcriptionist (C)
- 256 Nursing (AAS)
- 178 Phlebotomy Technician (CD)
- 258 Surgical Technologist (AAS)
- 183 Surgical Technologist (C)

## Natural Sciences

- 147 Grape Growing and Wine Making (CD)
- 246 Viticulture and Enology (AAS)
- 146 Viticulture and Enology (C)
- 247 Landscape & Nursery or Applied Plant Science w/ MSU (AAS)

# Art and Communication

# Fine Craft

**Certificate • Program Code: 132 • Credit Hours: 30 • Contact Hours: 30**  
**Coordinator: Shanna Robinson**

This Certificate is designed to provide a foundation of study in the fine arts. Students who complete this certificate will be prepared to transfer to a four-year BFA program or begin a studio practice.

## General Education Requirements

ENG	111	English Composition I	3
COM	111	Speech	3

**6 Credit Hours**

## Program Requirements

ART	102	Three-dimensional Design	3
ART	109	Basic Drawing and Composition	3

**12 Credit Hours**

### Choose 3 credits from the following courses:

ART	100	Two-Dimensional Design	3
ART	101	Color Theory	3

### Choose 3 credits from the following courses:

ART	105	Art History I	3
ART	106	Art History II	3
ART	115	History of Non-Western Art	3
ART	117	History of Modern Art	3

## Additional Requirements

**12 Credit Hours**

Select courses from the following list to satisfy the remaining 12 credit hours of program requirements:

ART	202	Introduction to Fiber and Textile Design	3
ART	204	Ceramics I	3
ART	205	Ceramics II	3
ART	206	Ceramics III	3
ART	208	Advanced Ceramics	3
ART	209	Advanced Handbuilding	3
ART	212	Life Drawing	3
ART	220	Stained Glass	3
ART	221	Advanced Stained Glass	3
ART	130	Introduction to Jewelry	3
ART	199	Survey of Glass Techniques	3
ART	230	Surface Design for Textiles	3
ART	231	Introduction to Weaving	3
ART	232	Advanced Weaving	3
ART	235	Dye Intensive	3
ART	236	Natural Dye Intensive	3
ART	238	Digital Imaging for Textiles	3
ART	226	How We Felt	1
ART	227	Indigo Loves Shibori	1
ART	228	Soy Wax to the Max	1
ART	229	Deconstructed Screen Printing	1
ART	234	Dyeing to Weave	3
ART	240	Jewelry II	3
ART	242	Jewelry III	3
ART	244	Jewelry IV	3
ART	245	The Business of Art	3
ART	252	Survey of Glass Techniques II	3
ART	290	Portfolio Development	1



# Studio Art

**Certificate • Program Code: 133 • Credit Hours: 30 • Contact Hours: 30**

**Coordinator: Shanna Robinson**

This Certificate is designed to provide a foundation of study in the fine arts. Students who complete this certificate will be prepared to transfer to a four-year BFA program or begin a studio practice.

## General Education Requirements

ENG 111 English Composition I  
COM 111 Speech

## 6 Credit Hours

3  
3

## Program Requirements

ART 102 Three-dimensional Design  
ART 109 Basic Drawing and Composition

## 12 Credit Hours

3  
3

## Choose 3 credits from the following courses:

ART 100 Two-Dimensional Design  
ART 101 Color Theory

3  
3

## Choose 3 credits from the following courses:

ART 105 Art History I  
ART 106 Art History II  
ART 115 History of Non-Western Art  
ART 117 History of Modern Art

3  
3  
3  
3

## Additional Requirements

Select courses from the following list to satisfy the remaining 12 credit hours of program requirements:

ART 112 Watercolors I  
ART 114 Oil Painting I  
ART 118 Oil Painting II  
ART 141 Pastel Landscape Painting  
ART 201 Printmaking  
ART 212 Life Drawing  
ART 213 Type and Image  
ART 218 Watercolors II  
ART 219 Watercolors III  
ART 222 Oil Painting III  
ART 223 Oil Painting IV  
ART 245 The Business of Art  
ART 290 Portfolio Development

## 12 Credit Hours

3  
3  
3  
3  
3  
3  
3  
3  
3  
3  
3  
3  
3  
1

# Communications

**Certificate • Program Code: 131 • Credit Hours: 33 • Contact Hours: 33**

Associate Dean: **Samantha McLin**

This certificate is designed for the individual who would like to develop professional-level speaking, writing and interpersonal communication skills and learn to apply such skills to academic, professional and/or personal endeavors.

## General Education Requirements

### Program Requirement

Program Requirement			33 Credit Hours
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech	3
COM	170	Interpersonal Communications	3
B	270	Business Communications	3
COM	235	Gender Communications	3
COM	250	Small Group Communications	3
PSY	161	Introduction to Psychology <b>or</b>	
SOC	171	Introduction to Sociology	3/3
M	205	Principles of Selling	3
COM	105	Mass Media	3

### Electives

Electives			(choose one course)
THF	101	Survey of Theatre	3
JRN	102	News Writing	3
JRN	220	Newspaper Production	3
COM	121	Oral Interpretation	3
M	200	Introduction to Marketing	3
M	202	Fundamentals of Advertising	3

# Graphic Arts

**Certificate of Development · Program Code: 113 · Credit Hours: 22 · Contact Hours: 22**

Associate Dean: **Samantha McLin**

This Certificate is designed to provide a foundation of study in the graphic arts. Students who complete this certificate will be prepared to transfer to a four-year program or enter the workforce as an entry-level graphic designer.

## **Program Requirements:**

			<b>22 Credit Hours</b>
ART	100	Two Dimensional Design	3
ART	101	Color Theory	3
ART	213	Type and Image	3
CAP	135	Web Page Design	3
CAP	140	Introduction to Adobe Photoshop	3
CAP	145	Introduction to Adobe Illustrator	3
CAP	150	Introduction to Adobe In Design	3

## **Additional Requirements**

			<b>(choose one course)</b>
OAS	101	Customer Service	1
OAS	190	Employability Skills	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

# Textiles

Certificate of Development • Program Code: 112 • Credit Hours: 22 • Contact Hours: 22

Coordinator: Shanna Robinson

This certificate of development is designed to provide a foundation of study in the textile arts. Students who complete this certificate will be prepared to transfer to a four-year program or enter the workforce as an entry-level textile worker.

## Program Requirements

### ART CORE

#### Choose 3 credits from the following:

ART	105	Art History I	3
ART	106	Art History II	3
ART	115	History of Non-Western Art	3
ART	116	History of Interiors	3
ART	117	History of Modern Art	3

#### Choose 3 credits from the following:

ART	101	Color Theory	3
ART	100	Two Dimensional Design	3

#### Choose 3 credits from the following:

ART	109	Basic Drawing and Composition	3
ART	102	Three Dimensional Design	3

### TEXTILES CORE

#### Choose 12 credits from the following:

ART	202	Introduction to Fiber and Textile Design	3
ART	230	Surface Design for Textiles	3
ART	231	Introduction to Weaving	3
ART	232	Advanced Weaving	3
ART	235	Dye Intensive	3
ART	236	Natural Dye Intensive	3
ART	226	How We Felt	1
ART	227	Indigo Loves Shibori	1
ART	228	Soy Wax to the Max	1
ART	229	Deconstructed Screen Printing	1
ART	234	Dyeing to Weave	3
ART	238	Digital Imaging for Textiles	3
ART	245	The Business of Art	3
ART	290	Portfolio Development	1

### Additional Requirements

(Choose one course)

CAP	100	Computers for the Very Beginner	1
OAS	110	Keyboarding Fundamentals	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

(continued...)

## **Suggested Sequence for Full-Time Students:**

### **Semester I (Fall)**

ART 100 Two Dimensional Design **or**

ART 101 Color

Choose any Art History

Choose two from Textiles Core

### **Semester II (Winter)**

ART 109 Drawing and Composition **or**

ART 102 Three Dimensional Design

Choose two Textiles Core

Choose one of the Additional Requirements (1 credit)

*Students attending part-time should consult with an academic advisor or art program coordinator for a recommendation regarding sequencing of courses.*

# **Business Administration**

# Accounting

**Associate of Applied Science • Program Code: 205 • Credit Hours: 60 • Contact Hours: 60**

Associate Dean: **Peter Olson**

This program prepares the student for a career in business, government or industry. Because of the growing complexity of accounting processes, well-educated students have numerous opportunities in the field.

Students who demonstrate math competency are exempt from the mathematics requirement. A math course higher than MATH 110 will also meet this requirement.

See your program coordinator for approval of other course options or if you need assistance.

<b>General Education Requirements</b>			<b>12-13 Credit Hours</b>
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech or	3
COM	170	Interpersonal Communication	3
B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or</b>	
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>	3/4/4

<b>Program Requirements</b>			<b>40 Credit Hours</b>
B	113	Computer Assisted Accounting	3
B	207	Business Communications	3
B	211	Accounting Principles I	4
B	212	Accounting Principles II	4
B	213	Intermediate Accounting I	4
B	214	Intermediate Accounting II	4
B	216	Federal Taxation I	3
B	218	Cost Accounting I	3
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
ECO	111	Macroeconomics <b>or</b>	
ECO	112	Microeconomics	3/3
M	200	Introduction to Marketing	3
OAS	252	Microsoft Office for Windows	3

<b>Additional Requirements</b>			<b>7-8 Credit Hours</b>
<b>Select courses from the following list to satisfy the remaining 5-11 credit hours of program requirements:</b>			
B	104	Business Math	3
B	161	Introduction to Business	3
B	200	Principles of Management	3
B	290	Business Law I	3
B	291	Business Law II	3
CAP	125	MS Excel	3
CAP	130	MS Access	3
CAP	135	Web Page Design	3
ECO	111	Macroeconomics <b>or</b>	
ECO	112	Microeconomics	3/3
OAS	101	Customer Service	1
OAS	121	Keyboarding I	2
OAS	190	Employability Skills	1
PSY	161	Introduction to Psychology	3

(continued...)

### **Course Recommendations:**

Preferred option for the Communications requirement:

COM 111 Speech

### **Suggested Sequence for Full-Time Students:**

#### **Semester I (Fall)**

B 211 Accounting Principles I  
ENG 111 English Composition I  
B 104 Business Math **or**  
MATH 100 Mathematical Reasoning **or**  
MATH 110 Beginning and Intermediate Algebra (Part I) **or higher**  
OAS 252 Microsoft Office for Windows  
Additional requirement

#### **Semester II (Winter)**

B 113 Computer Assisted Accounting  
B 212 Accounting Principles II  
ECO 111 Macroeconomics **or**  
ECO 112 Microeconomics  
ENG 112 English Composition II  
Additional requirement

#### **Semester III (Fall)**

B 213 Intermediate Accounting I  
B 218 Cost Accounting I  
B 290 Business Law I **or**  
B 291 Business Law II  
M 200 Introduction to Marketing

#### **Semester IV (Winter)**

B 207 Business Communications  
B 214 Intermediate Accounting II  
B 216 Federal Taxation I  
COM 111 Speech **or**  
COM 170 Interpersonal Communication  
Additional requirement



# Accounting Assistant

Certificate • Program Code: 105 • Credit Hours: 31 • Contact Hours: 31

Associate Dean: Peter Olson

North Central's certificate prepares the student for positions in a small business or corporate, governmental or institutional settings.

<b>Program Requirements</b>			<b>29 Credit Hours</b>
B	104	Business Math	3
B	113	Computer Assisted Accounting	3
B	211	Accounting Principles I	4
B	212	Accounting Principles II	4
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
OAS	121	Computer Keyboarding/Software Fundamentals <b>or</b>	
OAS	122	Document Processing I	3/3
OAS	252	Microsoft Office for Windows	3

<b>Additional Requirements</b>			<b>2 Credit Hours</b>
<b>Select courses from the following list to satisfy the remaining 2 credit hours of program requirements:</b>			
B	161	Introduction to Business	3
B	165	Small Business Essentials	3
CAP	---	Any Computer Applications course	3
B	285	Work-Based Learning-Business	1-4

If B285 is not offered, see your faculty advisor.

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	104	Business Math
ENG	111	English Composition I
OAS	121	Computer Keyboarding/Software Fundamentals <b>or</b>
OAS	122	Document Processing I
B	211	Accounting Principles I
B	290	Business Law I <b>or</b>
B	291	Business Law II

### Semester II (Winter)

B	113	Computer Assisted Accounting
B	212	Accounting Principles II
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
Additional Requirements		

# Advertising Assistant

Certificate • Program Code: 110 • Credit Hours: 30 • Contact Hours: 30

Associate Dean: **Pete Olson** Faculty Contact: **Chet Jessick**

This program prepares students for an entry-level position in the field of advertising.

<b>Program Requirements</b>			<b>21 Credit Hours</b>
ART	109	Basic Drawing and Composition	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
M	200	Introduction to Marketing	3
M	202	Fundamentals of Advertising	3
M	205	Principles of Selling	3

<b>Additional Requirements</b>			<b>9 Credit Hours</b>
<b>Select courses from the following list to satisfy the remaining 9 credit hours of program requirements:</b>			
B	161	Introduction to Business	3
B	165	Small Business Essentials	3
B	207	Business Communications	3
CAP	---	Any Computer Applications Course	3
M	204	Retailing and Services Management	3
M	220	Marketing Management	3
PSY	161	Introduction to Psychology	3
M	285*	Work-Based Learning-Marketing	1-2

\*See your program coordinator for approval of other course options or if you need assistance.

## Suggested Sequence for Full-Time Students

### Semester I (Fall)

ART	109	Basic Drawing and Composition
ENG	111	English Composition I
M	200	Introduction to Marketing
M	205	Principles of Selling

Additional Requirement

### Semester II (Winter)

COM	111	Speech <b>or</b>
COM	170	Interpersonal Communications
ENG	112	English Composition II
M	202	Fundamentals of Advertising

Additional Requirement

# Business Development

Certificate of Development • Program Code: 119 • Credit Hours: 16 • Contact Hours: 16

Associate Dean: Peter Olson

This program is designed to be valuable to those entering the job market for the first time, or re-entering it after a different career. This certificate will provide the student with basic small business expertise with the goal of either employability or the ability to start one's own business. Skills include business/accounting office fundamentals, the basics of the legal and finance world, employability and focused computer user training. At the successful completion of this program, the student will have a valuable set of skills for future employers.

## Program Requirements

## 16 Credit Hours

B	103	Basic Business Methods	3
B	110	Business Communication Essentials	3
CAP	100	Computers for the Very Beginner	1
CAP	102	Web Design for Beginners	1
ENT	120	Financing an Entrepreneurial Business	1
ENT	125	Legal Issues for Entrepreneurs	1
ENT	130	Tax Law and Policy	1
OAS	101	Customer Service	1
OAS	190	Employability Skills	1
OAS	252	Microsoft Office for Windows	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

CAP	100	Computers for the Very Beginner
CAP	102	Web Design for Beginners
ENT	120	Financing an Entrepreneurial Business
ENT	125	Legal Issues for Entrepreneurs

### Semester II (Winter)

B	103	Basic Business Methods
B	110	Business Communication Essentials
ENT	130	Tax Law and Policy
OAS	101	Customer Service
OAS	190	Employability Skills
OAS	252	Microsoft Office for Windows

# Business Management

Associate of Applied Science • Program Code: 220 • Credit Hours: 60 • Contact Hours: 60-61

Associate Dean: Peter Olson Faculty Contact: Chet Jessick and Rod Anderson

Employers are looking for competent, knowledgeable managers to run their businesses. Students in this program receive the education for entry-level employment in settings that range from retail sales management to hospitality and resort facilities to supervisory management.

Students who demonstrate math competency are exempt from the mathematics requirement. A math course higher than MATH 110 will also meet this requirement.

## General Education Requirements

			12-13 Credit Hours
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or</b>	
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>	3/4/4

## Program Requirements

			38 Credit Hours
B	161	Introduction to Business	3
B	200	Principles of Management	3
B	201	Human Resource Management	3
B	207	Business Communications	3
B	211	Accounting Principles I	4
B	212	Accounting Principles II	4
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
ECO	111	Macroeconomics <b>or</b>	3
ECO	112	Microeconomics	3
M	200	Introduction to Marketing	3
M	205	Principles of Selling: The Relationship and Leadership Edge	3
M	220	Marketing and Management Strategy	3
OAS	252	Microsoft Office for Windows	3

## Electives

### 9-10 Credit Hours

Students may take any course numbered 100 or higher to complete elective credit hours.

B	113	Computerized Accounting	3
B	165	Small Business Essentials	3
B	285	Work-Based Learning, Business	1-2
CAP	125	Microsoft Excel	3
CAP	130	Microsoft Access	3
CAP	135	Web Design	3
CIS	104	Introduction to Programming Logic	3
CIS	105	Visual Basic Programming I <b>or</b>	
CIS	115	C++ Programming I	3/3
ECO	111	Macroeconomics <b>or</b>	
ECO	112	Microeconomics	3/3
ENT	110	Essentials of Entrepreneurship	3
IT	101	Network +	3
M	202	Fundamentals of Advertising	3
OAS	101	Customer Service	1

(continued...)

OAS	190	Employability Skills	1
PSY	161	Introduction to Psychology	3
SPAN	111	Elementary Spanish I <b>or higher</b>	4
B	152	Leadership Essentials	4
B	222	Leadership Development I	4
B	232	Leadership Development II	4

### Course Recommendations:

Preferred option for the Communications:

COM 170 Interpersonal Communication

### Suggested Sequence for Full-Time Students:

#### Semester I (Fall)

B	161	Introduction to Business
B	211	Accounting Principles I
ENG	111	English Composition I
M	200	Introduction to Marketing
B	104	Business Math <b>or</b>
MATH	100	Mathematical Reasoning <b>or</b>
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>

#### Semester II (Winter)

B	200	Principles of Management
B	212	Accounting Principle II
ENG	112	English Composition II
OAS	252	Microsoft Office for Windows

#### Semester III (Fall)

B	201	Human Resource Management
B	290	Business Law I <b>or</b>
B	291	Business Law II
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communications
M	205	Principles of Selling: The Relationship and Leadership Edge
ECO	111	Macroeconomics <b>or</b>
ECO	112	Microeconomics

#### Semester IV (Winter)

B	207	Business Communications
M	220	Marketing and Management Strategy
		Electives
		Electives

# Entrepreneurship

Certificate • Program Code: 151 • Credit Hours: 31-32 • Contact Hours: 31-32

Associate Dean: Peter Olson

This certificate will help an entrepreneur start and manage a business successfully. North Central has worked with local entrepreneurs on a program that offers current business topics, excellent instruction and a very hands-on, practical approach. While this program results in an academic certificate, many of the courses being offered can be taken on a non-credit basis: grades and college credit will not be given. Many such courses are offered as brief, 3-6 hour seminars and workshops. Regardless of the type of business you are currently in or have plans to start, this program will give you the tools you need.

## Program Requirements

## 31-32 Credit Hours

B	104	Business Math	3
B	111	Accounting Procedures <b>or</b>	
B	211	Accounting Principles I	3/4
B	113	Computerized Accounting	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
M	200	Introduction to Marketing	3
OAS	101	Customer Service	1
ENG	111	English Composition I	3
ENT	110	Essentials of Entrepreneurship	3
ENT	120	Financing an Entrepreneurial Business	1
ENT	125	Legal Issues for Entrepreneurs	1
ENT	130	Tax Law and Policy	1
ENT	135	Human Resource Issues in Entrepreneurship	1
ENT	140	Technology and Entrepreneurship	1
ENT	145	Advertising and the Entrepreneur	1
ENT	170	Creative Blockbusting and Problem Solving	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	104	Business Math
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communications
ENG	111	English Composition I
ENT	110	Essentials of Entrepreneurship
ENT	electives	(ENT 120-145)

### Semester II (Winter)

B	111	Accounting Procedures <b>or</b>
B	211	Accounting Principles I
B	113	Computerized Accounting
ENT	170	Creative Blockbusting and Problem Solving
M	200	Introduction to Marketing
OAS	101	Customer Service
ENT	electives	(ENT 120-145)

# Entrepreneurship Essentials

Certificate of Development • Program Code: 142 • Credit Hours: 16 • Contact Hours: 16

Associate Dean: Peter Olson

Students who complete this certificate will be well-positioned to start and manage their own businesses successfully. North Central has worked with local entrepreneurs on a program that offers current business topics, excellent instruction and a hands-on, practical approach. Regardless of the type of business students are either currently in or have plans to start, this program will provide the needed tools.

## Program Requirements

## 16 Credit Hours

B	111	Accounting Procedures	3
ENT	110	Essentials of Entrepreneurship	3
ENT	120	Financing an Entrepreneurial Business	1
ENT	125	Legal Issues for Entrepreneurs	1
ENT	130	Tax Law and Policy	1
ENT	135	Human Resource Issues in Entrepreneurship	1
ENT	140	Technology and Entrepreneurship	1
ENT	145	Advertising and the Entrepreneur	1
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3

## Choose one course from the following:

OAS	101	Customer Service	1
OAS	190	Employability Skills	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

# General Office Professional

**Certificate • Program Code: 165 • Credit Hours: 30-31 • Contact Hours: 30-31**

Associate Dean: **Peter Olson** Faculty Contact: **Jane Bowe**

Prepares the student for a position in a small business, corporate, government, institutional setting or to produce professional office work from home. Coursework includes training in office skills and basic small computer operations. Emphasis is also placed on developing written and oral communication skills.

## Program Requirements

Program Requirements			30-31 Credit Hours
B	104	Business Math	3
B	111	Accounting Procedures	3
CAP	125	Microsoft Excel <b>or</b>	
OAS	224	Transcription/Editing	3/4
ENG	111	English Composition I	3
OAS	101	Customer Service	1
OAS	122	Document Processing I	3
OAS	141	Filing and Records Management	2
OAS	190	Employability Skills	1
OAS	223	Document Processing II	3
OAS	241	Administrative Procedures	3
OAS	252	Microsoft Office for Windows	3
OAS	254	Desktop Publishing for the Office	2

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	104	Business Math
B	111	Accounting Procedures
OAS	141	Filing and Records Management
OAS	190	Employability Skills
OAS	224	Transcription/Editing <b>or</b>
CAP	125	Microsoft Excel
OAS	254	Desktop Publishing for the Office

### Semester II (Winter)

ENG	111	English Composition I
OAS	101	Customer Service
OAS	122	Document Processing I
OAS	223	Document Processing II
OAS	241	Administrative Procedures
OAS	252	Desktop Publishing for the Office



# Hospitality and Casino Management

Associate of Applied Science • Program Code: 218 • Credit Hours: 60-61 • Contact Hours: 60-61

Associate Dean: Peter Olson

This program is designed for students with an interest in a career in hospitality, one of the largest and fastest growing industries in northern Michigan. Coursework consists of a combination of traditional, practical business courses and a selection of specialty hospitality courses. Depending on interest, students can design their degree programs to help them acquire the specific skills they need. While the program is designed to be particularly attractive to those in the gaming industry, the business and general hospitality courses would be useful for anyone contemplating an entry position in the hospitality business.

## General Education Requirements

B	104	Business Math	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3

## 12 Credit Hours

## Program Requirements

B	111	Accounting Procedures <b>or</b>	
B	211	Principles of Accounting I	3/4
B	161	Introduction to Business	3
B	200	Principles of Management	3
B	207	Business Communications	3
M	200	Introduction to Marketing	3
OAS	101	Customer Service	1
OAS	252	Microsoft Office for Windows	3
HTM	285*	Work-Based Learning-Hospitality	1-2

## 20-22 Credit Hours

\* If HTM 285 is not on the schedule, contact your faculty advisor or the Associate Dean for assistance.

## General Electives

B	201	Human Resource Management	3
B	212	Accounting Principles II	4
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
M	205	Principles of Selling	3
M	220	Marketing and Management Strategy	3

## (choose 6 Credit Hours)

## Social Science Electives

ECO	111	Macroeconomics	3
ECO	112	Microeconomics	3
PLS	141	Introduction to American Government	3
PSY	161	Introduction to Psychology	3

## (choose 6 Credit Hours)

## Hospitality Management Electives

HTM	121	Introduction to the Hospitality Industry	3
HTM	130	Food and Beverage Management	3
HTM	140	Introduction to Gaming Management	3
HTM	232	Hospitality Law and Ethics	3
HTM	240	Casino Operations and Management I	3
HTM	245	Casino Operations and Management II	3
HTM	250	Casino Risk Management	3

## (choose 15 Credit Hours)

(continued...)

### **Course Recommendations:**

Preferred options for the Social Sciences:

ECO 111 Macroeconomics  
ECO 112 Macroeconomics

### **Suggested sequence for full time students:**

#### **Semester I (Fall)**

B 104 Business Math  
B 111 Accounting Procedures **or**  
B 211 Principles of Accounting I  
COM 111 Speech **or**  
COM 170 Interpersonal Communications  
ENG 111 English Composition I  
M 200 Introduction to Marketing

#### **Semester II (Winter)**

B 161 Introduction to Business  
B 200 Principles of Management  
ENG 112 English Composition II  
HTM electives (HTM 121-250)  
OAS 101 Customer Service  
OAS 252 Microsoft Office for Windows

#### **Semester III (Fall)**

B 207 Business Communications  
General elective  
HTM elective  
HTM elective  
Social Science elective

#### **Semester IV (Winter)**

HTM 285 Work-Based Learning-Hospitality  
General elective  
HTM elective  
HTM elective  
Social Science elective

# Hospitality and Casino Management

Certificate • Program Code: 118 • Credit Hours: 31-32 • Contact Hours: 31-32

Associate Dean: Peter Olson

This certificate is designed for students with a serious interest in hospitality, one of the largest and fastest growing industries in northern Michigan. Coursework consists of a combination of traditional, practical business courses and a selection of specialty hospitality courses. Depending on interest, students can design a certificate to help them acquire the specific skills they need.

Students pursuing this certificate may continue on to the Associate of Applied Science in Hospitality. While the program is designed to be particularly attractive to those in the gaming industry, the business and general hospitality courses would be useful for anyone contemplating an entry position in the hospitality business.

## Program Requirements

			19-20 Credit Hours
B	104	Business Math	3
B	111	Accounting Procedures <b>or</b>	
B	211	Accounting Principles I	3/4
B	161	Introduction to Business	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
OAS	101	Customer Service	1
OAS	252	Microsoft Office for Windows	3

## Electives

			(choose 12 Credit Hours)
HTM	121	Introduction to the Hospitality Industry	3
HTM	130	Food and Beverage Management	3
HTM	140	Introduction to Gaming Management	3
HTM	232	Hospitality Law and Ethics	3
HTM	240	Casino Operations and Management I	3
HTM	245	Casino Operations and Management II	3
HTM	250	Casino Risk Management	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	161	Introduction to Business
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communications
OAS	101	Customer Service
OAS	252	Microsoft Office for Windows
HTM	elective	

### Semester II (Winter)

B	104	Business Math
B	111	Accounting Procedures <b>or</b>
B	211	Accounting Principles I
ENG	111	English Composition I
HTM	elective	
HTM	elective	
HTM	elective	

# Hospitality and Hotel

Certificate of Development · Program Code: 117 · Credit Hours: 19-20 · Contact Hours: 19-20

Associate Dean: Peter Olson

This certificate of development provides a means by which students interested in the hospitality field can gain basic understanding to allow them to enter the field after one or two semesters of study. The program introduces students to business, communication and customer service skills in addition to entry level hospitality management skills. This is a good program for students either entering the field or those currently working in hospitality who wish to advance.

## Program Requirements

## 19-20 Credit Hours

B	111	Accounting Procedures or	
B	211	Principles of Accounting I	3/4
COM	170	Interpersonal Communications	3
HTM	121	Introduction to the Hospitality Industry	3
HTM	130	Food and Beverage Management	3
HTM	232	Hospitality Law and Ethics	3
OAS	101	Customer Service	1
OAS	252	Microsoft Office for Windows	3

# Management

**Certificate • Program Code: 149 • Credit Hours: 31-32 • Contact Hours: 31-32**

Associate Dean: **Peter Olson** Faculty Contact: **Chet Jessick**

This certificate program is designed for students who wish to develop the basic skills and knowledge to enter the business workplace after one year of study. This program will prepare students to enter a variety of settings, including retail, service, industry and hospitality.

This certificate can also act as an excellent first step to the Business Management Associate of Applied Science degree, as most of the credits earned will transfer to that degree.

## Program Requirements

Program Requirements			31-32 Credit Hours
B	104	Business Math	3
B	161	Introduction to Business	3
B	200	Principles of Management	3
B	201	Human Resource Management	3
B	111	Accounting Procedures <b>or</b>	
B	21 1	Accounting Principles I	3/4
COM	170	Interpersonal Communication	3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
M	200	Introduction to Marketing	3
OAS	101	Customer Service	1
OAS	252	Microsoft Office for Windows	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
B	111	Accounting Procedures <b>or</b>
B	211	Accounting Principles I
B	104	Business Math
COM	170	Interpersonal Communications
OAS	101	Customer Service
B	161	Introduction to Business

### Semester II (Winter)

ENG	112	English Composition II
M	200	Introduction to Marketing
B	200	Principles of Management
B	201	Human Resource Management
OAS	252	Microsoft Office for Windows

# Marketing

Associate of Applied Science • Program Code: 245 • Credit Hours: 60 • Contact Hours: 60

Associate Dean: Peter Olson Faculty Contact: Chet Jessick

Students will obtain skills in retailing and selling, communication, advertising and business management in preparation for a position in business and industry. Students who demonstrate math competency are exempt from the mathematics requirement. A math course higher than MATH 110 will also meet this requirement. See your program coordinator for approval of other course options.

## General Education Requirements

## 12-13 Credit Hours

B	104	Business Math	or	
MATH	100	Mathematical Reasoning	or	
MATH	110	Beginning and Intermediate Algebra (Part I)	or higher	3/4/4
COM	111	Speech	or	
COM	170	Interpersonal Communication		3/3
ENG	111	English Composition I		3
ENG	112	English Composition II		3

## Program Requirements

## 40 Credit Hours

B	113	Computer Assisted Accounting		3
B	161	Introduction to Business		3
B	200	Principles of Management		3
B	207	Business Communications		3
B	211	Accounting Principles I		4
B	290	Business Law I	or	
B	291	Business Law II		3/3
ECO	111	Macroeconomics	or	
ECO	112	Microeconomics		3/3
M	200	Introduction to Marketing		3
M	202	Fundamentals of Advertising		3
M	204	Retailing and Services Management		3
M	205	Principles of Selling: The Relationship and Leadership Edge		3
M	220	Marketing and Management Strategy		3
OAS	252	Microsoft Office for Windows		3

## Additional Requirements

## 7-8 Credit Hours

Select courses from the following list to satisfy the remaining 7-8 credit hours of program requirements:

ART	101	Color Theory		3
ART	109	Basic Drawing and Composition		3
B	212	Accounting Principles II		4
B	290	Business Law I	or	
B	291	Business Law II		3/3
CAP	135	Web Design		3
CAP	140	Introduction to Adobe Photoshop		3
CAP	145	Introduction to Adobe Illustrator		3
CAP	150	Introduction to Adobe InDesign		3
ECO	111	Macroeconomics	or	
ECO	112	Microeconomics		3/3
M	285	Work-Based Learning		1-2
M	299	Independent Study		3
OAS	101	Customer Service		1
OAS	190	Employability Skills		1
PHO	100	Basic Photography		3
PHO	120	Digital Photography		3
PHO	120	Digital Photography		3

(continued...)

### **Course Recommendations:**

Preferred option for the Mathematics requirement:

B 104 Business Math

Preferred option for the Communications requirement:

COM 170 Interpersonal Communication

Preferred option for the Social Science requirement:

ECO 111 Macroeconomics

### **Suggested Sequence for Full-Time Students:**

#### **Semester I (Fall)**

B 200 Principles of Management  
ECO 111 Macroeconomics **or**  
ECO 112 Microeconomics  
ENG 111 English Composition I  
M 200 Introduction to Marketing  
B 104 Business Math **or**  
MATH 100 Mathematical Reasoning **or**  
MATH 110 Beginning and Intermediate Algebra (Part I) **or higher**

#### **Semester II (Winter)**

COM 111 Speech **or**  
COM 170 Interpersonal Communications  
ENG 112 English Composition II  
M 202 Fundamentals of Advertising  
B 290 Business Law I **or**  
B 291 Business Law II  
B 161 Introduction to Business

#### **Semester III (Fall)**

B 211 Accounting Principles I  
OAS 252 Microsoft Office for Windows  
M 204 Retailing and Services Management  
M 205 Principles of Selling: The Relationship and Leadership Edge  
Additional Requirements

#### **Semester IV (Winter)**

B 207 Business Communications  
B 113 Computer Assisted Accounting  
M 220 Marketing and Management Strategy  
Additional requirements

# Marketing Assistant

Certificate • Program Code: 135 • Credit Hours: 31 • Contact Hours: 31

Associate Dean: Peter Olson Faculty Contact: Chet Jessick

This certificate program will provide classroom and field experiences designed to give the student a well-rounded background in preparation for a career in marketing.

## Program Requirements

26 Credit Hours

COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
M	200	Introduction to Marketing	3
M	202	Fundamentals of Advertising	3
M	204	Retailing and Service Management	3
M	205	Principles of Selling: The Relationship and Leadership Edge	3
OAS	252	Microsoft Office for Windows	3
M	285*	Work-Based Learning-Marketing	2

\* If not on the schedule, contact faculty advisor for assistance.

## Additional Requirements

5 Credit Hours

Select courses from the following list to satisfy the remaining 5 credit hours of program requirements:

B	161	Introduction to Business	3
B	165	Small Business Essentials	3
B	207	Business Communication	3
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
M	220	Marketing and Management Strategy	3
MATH	130	College Algebra	4
STAT	200	Statistics	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I	
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communications	
M	200	Introduction to Marketing	
M	204	Retailing and Services Management	
M	205	Principles of Selling: The Relationship and Leadership Edge	
OAS	252	Microsoft Office for Windows	

### Semester II (Winter)

ENG	112	English Composition II	
B	161	Introduction to Business	
M	202	Fundamentals of Advertising	
Additional Requirements			



# Microsoft Office Specialist

**Certificate of Development · Program Code: 109 · Credit Hours: 17 · Contact hours: 17**

Associate Dean: **Peter Olson** Faculty Contact: **Jane Bowe**

This certificate of development is designed to provide expertise in the Microsoft Office Suite and to prepare students for the Microsoft Office Specialist (MOS) certification exams. Virtually every occupational area requires strong core skills in computer operations and certification will enhance other programs of study as well as provide a stand-alone career and technical education foundations. This versatile certificate will provide students with the opportunity to strengthen existing competencies and/or begin the learning sequence of Microsoft and related skills.

Information on the MOS certification exam can be viewed at [www.Microsoft.com/learning/en/us/certification/mos.aspx](http://www.Microsoft.com/learning/en/us/certification/mos.aspx)

## Program Requirements

## 17 Credit Hours

CAP	125	Microsoft Excel	3
CAP	130	Microsoft Access	3
OAS	242	Office Technology	3
OAS	252	Microsoft Office for Windows	3
OAS	253	Microsoft Word	3
OAS	254	Desktop Publishing	2

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

OAS	242	Office Technology
OAS	254	Desktop Publishing
OAS	252	Microsoft Office for Windows

### Semester II (Winter)

CAP	125	Microsoft Excel
CAP	130	Microsoft Access
OAS	253	Microsoft Word

# New Media

**Certificate of Development · Program Code: 111 · Credit Hours: 16 · Contact Hours: 16**

Associate Dean: **Peter Olson**

This certificate is designed to introduce the student to the exciting area of digital and web-based audio and video recording, editing and presentation. Students will gain hands-on experience in capturing video and audio and preparing them for transfer to the web or other media. This certificate is recommended for anyone interested in earning a credential in this new and rapidly growing field.

## Program Requirements

## 16 Credit Hours

CAP	135	Web Page Design	3
CAP	140	Introduction to Adobe Photoshop	3
CAP	160	Introduction to Digital Audio/Video	3
CAP	210	Advanced Web Page Design	3
CAP	215	Advanced Digital Audio/Video	3

## Choose one course from the following:

OAS	101	Customer Service	1
OAS	190	Employability Skills	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

# Office Administrative Services

Associate of Applied Science • Program Code: 277 • Credit Hours: 60 • Contact Hours: 60-61

Associate Dean: Peter Olson

This program prepares the student to be an administrative assistant. Students will gain a strong foundation in developing and transmitting communication through the use of document processing and electronic record keeping, problem solving and human relations. Opportunities for office administration include but are not limited to banking, communications, education, entertainment, insurance, retailing, allied health, wholesaling, manufacturing, real estate, travel and transportation.

**A Medical Office Emphasis • Program Code 270** may be earned by substituting:

OAS 116 Medical Terminology for B 161 Introduction to Billing

OAS 117 Medical Transcription for B 111/211 Accounting Procedures/Accounting Principles I

OAS 216 (or OAS 220 & 221) for all requirements

## General Education Requirements

## 12-14 Credit Hours

ENG	111	English Composition I	3
ENG	112	English Composition II	3

**Choose two General Education courses from the following:**

BIO	133*	Introduction to Human Biology	4
COM	111	Speech	3
COM	170	Interpersonal Communication	3
ECO	111	Macroeconomics	3
PLS	141	Introduction to American Government	3
PSY	161	Introduction to Psychology	3
SPAN	111	Elementary Spanish I	4

\*May be satisfied with AH 130.

## Program Requirements

## 40-41 Credit Hours

B	104	Business Math	3
B	111	Accounting Procedures <b>or</b>	
B	211	Accounting Principles I	3/4
B	161	Introduction to Business	3
B	207	Business Communications	3
CAP	125	Microsoft Excel I	3
OAS	101	Customer Service	1
OAS	122**	Document Processing I	3
OAS	141	Filing and Records Management	2
OAS	190	Employability Skills	1
OAS	223	Document Processing II	3
OAS	224	Transcription/Editing	4
OAS	241	Administrative Procedures	3
OAS	242	Information Technology	3
OAS	252	Microsoft Office for Windows	3
OAS	254	Desktop Publishing	2

\*\* OAS 122 has a prerequisite of OAS 121 or equivalent.

(continued...)

## Additional Requirements

## 5-8 Credit Hours

### Choose from the following list:

B	113	Computer Assisted Accounting	3
B	200	Principles of Management	3
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
CAP	135	Web Page Design	3
OAS	121	Keyboarding and Software Fundamentals	3
OAS	285***	Work-Based Learning-OAS	1-2

\*\*\* If OAS 285 is not offered, see your program coordinator.

### Suggested Sequence for Full-Time Students:

#### Semester I (Fall)

B	104	Business Math
ENG	111	English Composition I
OAS	141	Filing and Records Management
OAS	122	Document Processing I
OAS	224	Transcription/Editing

#### Semester II (Winter)

ENG	112	English Composition II
OAS	101	Customer Service
OAS	223	Document Processing II
OAS	241	Administrative Procedures
OAS	252	Microsoft Office for Windows

Additional requirements: (Medical option: OAS 216 or OAS 220 & 221)

#### Semester III (Fall)

B	207	Business Communications
OAS	190	Employability Skills
OAS	242	Information Technology
OAS	254	Microsoft Office for Windows
B	161	Introduction to Billing <b>or</b> (Medical option: OAS 116)
B	111	Accounting Procedures <b>or</b>
B	211	Accounting Principles I <b>or</b> (Medical option: OAS 117)

#### Semester IV (Winter)

CAP	125	Microsoft Excel I
		General Education Course
		General Education Course
		Additional Requirement

# Office Support Specialist

**Certificate of Development · Program Code: 158 · Credit Hours: 16 · Contact Hours: 16**

Associate Dean: **Peter Olson**

This certificate provides entry-level skills for the student wishing to enter the office workplace. Basic business and written communication skills are taught, as are basic office skills. Ideal for the student wishing to make a career change into the office.

## Program Requirements

**16 Credit Hours**

B	111	Accounting Procedures	or	
OAS	122	Document Processing I		3/3
ENG	111	English Composition I		3
OAS	101	Customer Service		1
OAS	121	Keyboarding & Software Fundamentals		3
OAS	141	Filing and Records Management		2
OAS	190	Employability Skills		1
OAS	252	Microsoft Office for Windows		3

# Receptionist

**Certificate of Development · Program Code: 159 · Credit Hours: 16 · Contact Hours: 16**

Associate Dean: **Peter Olson**

This program prepares the student for employment as a receptionist in a business office environment.

## Program Requirements

**16 Credit Hours**

ENG	111	English Composition I		3
OAS	101	Customer Service		1
OAS	122	Document Processing I		3
OAS	141	Filing and Records Management		2
OAS	190	Employability Skills		1
OAS	223	Document Processing II		3
OAS	241	Administrative Procedures		3

# Small Business Management

**Certificate • Program Code: 150 • Credit Hours: 33-34 • Contact Hours: 33-34**

Associate Dean: **Peter Olson** Faculty Contact: **Chet Jessick**

This certificate program prepares the student for management positions in a small business, retail sales or corporate, governmental or institutional settings. Whether the student intends to manage a store, restaurant, hotel, financial operation or other type of small business, this program will help maximize opportunities for success.

<b>Program Requirements</b>			<b>33-34 Credit Hours</b>
B	104	Business Math	3
B	165	Small Business Essentials	3
B	200	Principles of Management	3
B	111	Accounting Procedures <b>or</b>	
B	211	Accounting Principles I	3/4
B	290	Business Law I <b>or</b>	
B	291	Business Law II	3/3
ENG	111	English Composition I	3
ENT	110	Essentials of Entrepreneurship	3
M	200	Introduction to Marketing	3
M	204	E-Commerce, Retailing and Service Management	3
M	205	Principles of Selling: The Relationship and Leadership Edge	3
OAS	252	Microsoft Office for Windows	3

## **Suggested Sequence for Full-Time Students:**

### **Semester I (Fall) ENG 111**

B	111	Accounting Procedures <b>or</b>
B	211	Accounting Principles I
B	104	Business Math
M	204	E-Commerce, Retailing and Service Management
ENT	110	Essentials of Entrepreneurship

### **Semester II (Winter)**

M	200	Introduction to Marketing
M	205	Principles of Selling: The Relationship and Leadership Edge
B	165	Small Business Essentials
B	200	Principles of Management
B	290	Business Law I <b>or</b>
B	291	Business Law II
OAS	252	Microsoft Office for Windows

# Wooden Boat Building

Associate of Applied Science • Program Code: 290 • Credit Hours: 66 • Contact Hours: 66

Associate Dean: Peter Olson

This is a cooperative agreement between North Central and the Great Lakes Boat Building School in Cedarville, Michigan (GLBBS) whereby students who are enrolled in the full time, nine-month, hands-on boat-building program at GLBBS may receive North Central credit for that program toward this associate's degree. By completing the required North Central courses, plus the GLBBS curriculum, students can earn this Associate of Applied Science in Wooden Boat Building degree to augment their boat-building skills and improve their marketability. There are a number of opportunities in the national boat building and boat restoration marketplaces to which this partnership will help provide access. The GLBBS program includes courses in woodworking, traditional and composite wooden boat building, basic design, yacht joinery, and boat repair and restoration. Since the GLBBS program is full time, most students choose to enroll in the North Central classes either before or after completing the hands-on program. Students wishing to apply for federal financial aid should consult with North Central's Financial Aid office (231-348-6698) before enrolling.

More information on GLBBS, including a description of the nine-month program, can be found at [www.greatlakesboatbuilding.org](http://www.greatlakesboatbuilding.org).

## Program Requirements

**66 Credit Hours**

### NCMC Course Requirements

**28 Credit Hours**

ART	102	Three-Dimensional Design	3
ART	109	Basic Drawing & Composition	3
MATH	100	Mathematical Reasoning <b>or higher</b>	4
B	161	Introduction to Business	3
CIS	100	Introduction to Computers	3
COM	170	Interpersonal Communication	3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
ENGR	107	Engineering Graphics	3

### Electives

**(choose 6 credits)**

B	111	Accounting Procedures	3
B	165	Small Business Essentials	3
B	200	Principles of Management	3
ENT	110	Essentials of Entrepreneurship	3
M	200	Introduction to Marketing	3
PHO	107	Digital Photography I	3
TDT	130	CAD I	3
TDT	132	CAD III	3
TDT	140	Architectural CAD	3
TDT	150	Mechanical CAD	3

**NCMC Total 34**

### Great Lakes Boat Building School Curriculum

**32 Credit Hours**

(will transfer upon receipt of GLBBS transcript and after completion of all North Central program requirements)

# Information Technology



# Computer-Aided Design

**Certificate • Program Code: 116 • Credit Hours: 30-31 • Contact Hours: 30-32**

Associate Dean: **Peter Olson**

This certificate is specifically designed for those students who wish to develop their CAD skills and to incorporate them with more rounded business skills to prepare them for the workplace. Students will have the option of focusing in either Architectural or Mechanical CAD, or of combining them in a certificate. Holders of this certificate will be better equipped to work in the CAD field as a detailer, layout specialist or draftsman.

## Program Requirements

## 27-28 Credit Hours

CAP	125	Microsoft Excel	or	
CAP	130	Microsoft Access		3/3
CIS	100	Introduction to Computers		3
ENG	111	English Composition I		3
ENGR	107	Engineering Graphics		3
MATH	110	Beginning and Intermediate Algebra (Part I)		4
TDT	130	Introduction to CAD		3
TDT	132	Advanced CAD		3
TDT	140	Architectural CAD	or	
TDT	150	Mechanical CAD		3/3

## Additional Requirements

## (choose one course)

Select a course from the following list to satisfy the remaining 2-3 credit hours of program requirements:

CAP	135	Web Page Design
CIS	104	Introduction to Programming Logic
CIS	105	Visual Basic Programming I
CIS	140	Introduction to Linux/UNIX
IT	102	Networking Essentials

## Electives

## (choose one course)

ARC	110	Elements of Architecture	3
ART	105	Art History I	3
ART	106	Art History II	3
B	161	Introduction to Business	3
B	207	Business Communication	3
CIS	120	PC Operating Systems	3
COM	111	Speech	3
COM	170	Interpersonal Communications	3
TDT	140	Architectural CAD	3
TDT	150	Mechanical CAD	3

## Suggested Sequence for Full-Time Students:

\*Sequencing of courses will depend on availability. Monitor schedule and meet with your program coordinator.

### Semester I (Fall)

CIS	100	Introduction to Computers
ENG	111	English Composition I
ENGR	107	Engineering Graphics
TDT	130	Introduction to CAD

Elective

### Semester II (Winter)

CAP	125	Microsoft Excel	or	CAP	130	Microsoft Access
MATH	110	Beginning and Intermediate Algebra (Part I)				
TDT	132	Advanced CAD	or	other TDT course*		

Additional Requirement

### Semester III (Fall)

TDT 132 or other TDT course\*

# CCNA Certification Preparation

Certificate of Development • Program Code: 114 • Credit Hours: 18 • Contact Hours: 18

Associate Dean: **Peter Olson** Faculty Contact: **Fred Harrington**

North Central entered into a Cisco Academy agreement to enable our students' access to the CCNA Exploration training track. Our program utilized a combination of Cisco online content with instructor aided hands-on learning activities. This combination prepares students for entry-level positions with hands-on experience and the Cisco Certified Network Associate certification.

## Program Requirements

## 18 Credit Hours

IT	160	Advanced Hardware and Routing	3
IT	170	Cisco Network Fundamentals	3
IT	180	Cisco Routing Protocols	3
IT	190	Cisco LAN Switching & Wireless	3
IT	201	Cisco Wide Area Networks	3
IT	272	Certification Preparation Cisco	3

## Suggested Sequence:

### Semester I (Fall)

IT	170	Cisco Network Fundamentals
IT	180	Cisco Routing Protocols
IT	190	Cisco LAN Switching & Wireless

### Semester II (Winter)

IT	201	Cisco Wide Area Networks
IT	160	Advanced Hardware and Routing
IT	272	Certification Preparation Cisco

# Computer Information Systems

Associate of Applied Science • Program Code: 243 • Credit Hours: 60 • Contact Hours: 68-70

Associate Dean: Peter Olson

This course of study includes hands-on lab work with PCs utilizing a variety of network and stand-alone operating systems. Students will get experience with the Internet and computer programming in object-oriented environments. This program will prepare students for immediate employment opportunities. Students wishing to transfer to a four-year institution should plan to work closely with the CIS program coordinator. The field of computer information systems continues to undergo rapid change and students are encouraged to work with their program coordinator at all times. Students who demonstrate math competency are exempt from the mathematics requirement.

## General Education Requirements

## 16 Credit Hours

COM	170	Interpersonal Communication	3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4
PLS	141	Introduction to American Government	3

## Program Requirements

## 40 Credit Hours

CIS	100	Introduction to Computers	3
CIS	104	Introduction to Programming Logic	3
CIS	105	Visual BASIC Programming I	3
CIS	115	C++ Programming I	3
CIS	120	PC Operating System I	3
CIS	140	Introduction to Linux/UNIX	3
CIS	145	ePortal Development	3
CIS	150	Introduction to Database Administration	3
CIS	205	C++ Programming II	3
CIS	215	Database Design and Management	3
CIS	220	Visual BASIC Programming II	3
IT	101	Network +	3
IT	102	Networking Essentials	2
IT	112	Windows Workstations	2
IT	161	Introductory Digital Logic	2

## Additional Requirements

## 4 Credit Hours

Select courses from the following list to satisfy the remaining 4 credit hours of program requirements:

CAP	135	Web Page Design	3
CIS	225	Introduction to Java Programming I	3
CIS	240	Linux/UNIX System Administration	3
CIS	297	Special Topics in CIS	1-5
IT	130	Windows Network Infrastructure	2.5
OAS	190	Employability Skills	1
CIS	280	Internship/Special Projects	3
IT	122	Windows Server	2
IT	131	Windows Web Server	1.5

(continued...)

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
CIS	100	Introduction to Computers
CIS	104	Introduction to Programming Logic
COM	170	Interpersonal Communication
PLS	141	Introduction to American Government

### Semester II (Winter)

CIS	105	Visual BASIC Programming I
CIS	115	C++ Programming I
CIS	215	Database Design and Management
ENG	112	English Composition II
MATH	110	Beginning and Intermediate Algebra (Part I)

### Semester III (Fall)

CIS	150	Introduction to Database Administration
CIS	140	Introduction to Linux/UNIX
CIS	205	C++ Programming II
CIS	220	Visual BASIC Programming II
IT	102	Networking Essentials

### Semester IV (Winter)

CIS	120	PC Operating System I
CIS	145	ePortal Development
IT	101	Network +
IT	122	Windows Server

Additional Requirements

# Computer Information Systems

Certificate • Program Code: 162 • Credit Hours: 33 • Contact Hours: 38

Associate Dean: Peter Olson

Acquire entry-level skills that can be applied to any position requiring computer knowledge. The program has been designed with an emphasis on developing the student's ability to use and apply computer languages and systems in business and industrial applications. Students may continue on in their education or return to complete the CIS associate's degree.

## Program Requirements

## 33 Credit Hours

CIS	100	Introduction to Computers	3
CIS	104	Introduction to Programming Logic	3
CIS	105	Visual BASIC Programming I	3
CIS	115	C++ Programming	3
CIS	120	PC Operating System	3
CIS	145	ePortal Development	3
CIS	215	Database Design and Management	3
COM	170	Interpersonal Communication	3
IT	101	Network +	3
IT	102	Networking Essentials	2
MATH	110	Beginning and Intermediate Algebra (Part I)	4

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

CIS	100	Introduction to Computers
CIS	104	Introduction to Programming Logic
CIS	105	Visual BASIC Programming I
IT	102	Networking Essentials

### Semester II (Winter)

CIS	115	C++ Programming
CIS	145	ePortal Development
CIS	215	Database Design and Management
MATH	110	Beginning and Intermediate Algebra (Part I)
IT	101	Network +

### Semester III (Fall)

CIS	120	PC Operating System
COM	170	Interpersonal Communication

# Computer Networking

Associate of Applied Science • Program Code: 282 • Credit Hours: 60-61 • Contact Hours: 61-64

Associate Dean: Peter Olson Faculty Contact: Fred Harrington

North Central's Associate of Applied Science in Computer Networking provides students with both academic study and hands-on experience along with the opportunity for Microsoft certifications. Through the College's membership in the Microsoft Developers Network Academic Alliance (MSDNAA), students have access to Microsoft's complete line of computer networking products. The hands-on activities help students prepare for certification as a Microsoft Technology Associate (MTA) up to Microsoft Certified IT Professional (MCITP).

Program requirements may be waived with documented equivalent vendor certifications (e.g., Net+, MCSA, CNE, MCP, CCNA), for all IT courses below IT 200, with advisor approval. Any 100-level or higher course may be used to meet the 60-credit minimum requirement for a certificate if any program requirements are waived.

Open Entry/Self-Paced: North Central offers computer networking courses in an open-entry (OE) self-paced format. This format enables students to start courses after the normal semester and work at a pace agreed upon by the student and the instructor. Open lab time is scheduled for daytime and evening access to facilitate student work schedules. The College's networking lab is designed for networking activities using routers, switches, multiple servers and multiple operating systems in hard box and virtual environments.

## General Education Requirements

ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	---	Any COM course	3
OAS	190	Employability Skills	1

## 10 Credit Hours

## Program Requirements

CIS	100	Introduction to Computers	3
CIS	104	Intro Programming Logic	3
CIS	140	Introduction to Linux/UNIX	3
IT	101	*OE Network +	3
IT	102	*OE Networking Essentials	2
IT	112	*OE Windows Workstations	2
IT	122	*OE Windows Servers	2
IT	130	*OE Windows Network Infrastructure	2.5
IT	150	*OE Windows Directory Services	2.5
IT	161	*OE Introductory Digital Logic	2
IT	221	*OE Designing Windows Networks	6
IT	222	Network Security Fundamentals	3

## 34 Credit Hours

## Additional Program Requirements

Select 6 credits from any CIS courses (excluding CIS 100, 104, 140)

IT	270	*OE Capstone Project or	
IT	280	Internship / Project	4/4

## 10 Credit Hours

## Program Electives

Any courses numbered 100 or higher  
(continued...)

## 6 Credit Hours

6

\*Open Entry: North Central is now offering computer networking (IT) courses in an “open entry” format. This means you may, with instructor approval, sign up for a class designated as “OE” after the standard drop/add date. The open entry format enables you to work at your own pace. With the instructor’s permission, you may register for and begin additional OE courses no later than the end of the 12th week of the semester. Immediate payment will be expected upon enrollment and all OE courses for which you have registered must be completed by the end of the semester. Financial aid restrictions may apply.

All IT courses are scheduled as TBA. This means “to be arranged” and indicates they are self-paced courses. You should see your professor the first week of the semester to set up your personal timetable.

### **Suggested Sequence for Full-Time Students:**

#### **Semester I (Fall)**

ENG	111	English Composition I
CIS	100	Introduction to Computers
IT	101	Network +
IT	102	Networking Essentials
IT	112	Windows Workstations
IT	122	Windows Server

#### **Semester II (Winter)**

ENG	112	English Composition II
IT	130	Windows Network Infrastructure
IT	150	Windows Directory Services
CIS		Elective
CIS		Elective
CIS	140	Introduction to Linux/UNIX

#### **Semester III (Fall)**

CIS	104	Intro Programming Logic
IT	221	Designing Windows Networks
OAS	190	Employability Skills
		Any elective

#### **Semester IV (Winter)**

IT	222	Network Security Fundamentals
IT	161	Introductory Digital Logic
IT	270	Capstone Project <b>or</b>
IT	280	Internship/Project
COM	---	Any COM course
		Any elective

# Computer Networking Administrator

Certificate • Program Code: 182 • Credit Hours: 30-31 • Contact Hours: 30-31

Associate Dean: Peter Olson Faculty Contact: Fred Harrington

North Central's combination of Microsoft servers and Cisco networking equipment prepares a student for an entry level position in an existing network environment. Additionally students will be prepared to take some of the Microsoft Certified Technology Specialist (MCTS) examinations.

Program requirements may be waived with documented equivalent vendor certifications (e.g., Net+, MCTS or CCNA) for any class below IT 122 with advisor approval. Any 100-level or higher course may be used to meet the 60 credit minimum requirement for a degree if any program requirements are waived.

## Program Requirements

## 30-31 Credit Hours

B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or higher</b>	3/4
CIS	100	Introduction to Computers	3
COM	---	Any COM course	3
ENG	111	English Composition I	3
IT	101	*OE Network +	3
IT	102	*OE Networking Essentials	2
IT	112	*OE Windows Workstations	2
IT	122	*OE Windows Servers	2
IT	130	*OE Windows Network Infrastructure	2.5
IT	131	*OE Windows Web Server	1.5
IT	141	*OE Managing Windows Networks	4
OAS	190	Employability Skills	1

\*Open Entry: North Central offers computer networking (IT) courses in an "open entry" format. This means you may, with instructor approval, sign up for a class designated as "OE" after the standard drop/add date. The open entry format enables you to work at your own pace. With the instructor's permission, you may register for and begin additional OE courses no later than the end of the 12th week of the semester. Immediate payment will be expected upon enrollment and all OE courses for which you have registered must be completed by the end of the semester. Financial aid restrictions may apply.

All IT courses are scheduled as TBA. This means "to be arranged" and indicates they are self-paced courses. You should see your professor the first week of the semester to set up your personal timetable.

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
CIS	100	Introduction to Computers
IT	101	Network +
IT	102	Networking Essentials
IT	112	Window Workstations
IT	122	Windows Server

### Semester II (Winter)

IT	131	Windows Web Server
COM	---	Any COM course
IT	130	Windows Network Infrastructure
IT	141	Managing Windows Networks
B	104	Business Math <b>or</b>
MATH	100	Mathematical Reasoning <b>or higher</b>
OAS	190	Employability Skills



# Computer Support Specialist

Associate of Applied Science • Program Code: 238 • Credit Hours: 60-61 • Contact Hours: 61-62

Associate Dean: Peter Olson Faculty Contact: Fred Harrington

North Central's Computer Support Specialist Associate of Applied Science degree provides students with both the academic study and hands-on experience necessary to succeed in the information computing technology support field. The course content provides the student with the foundation knowledge and skills needed to pass the Internet and Computing Core Certification (IC-3<sup>®</sup>), CompTIA A+ certification exams as well as the Core level Microsoft Technology Associate (MTA) Fundamental examinations and some of the Microsoft Office Specialist (MOS) certification exams. Students completing the Computer Support Specialist Associate of Applied Science Degree program are qualified for employment as help desk technicians, computer support technicians, and computer applications specialists. To earn this North Central Degree the student must pass the IC-3, and the MTA Fundamental Networking and Security examinations and the CompTIA A+ certification examination.

## General Education Requirements

			15-16 Credit Hours
ENG	111	English Composition I	3
ENG	112	English Composition II	3
B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or higher</b>	3/4
COM	---	Any COM course	3
Any Social Science course			3

## Program Requirements

			35 Credit Hours
CAP	135	Web Page Design	3
CIS	100	Introduction to Computing	3
CIS	104	Intro to Program Logic	3
CIS	120	PC Operating Systems I	3
CIS	140	Introduction to UNIX	3
IT	101	*Network+	3
IT	112	*Windows Workstations	2
IT	199	*Help Desk Internship	4
IT	222	*Network Security Fundamentals	3
IT	280	Internship	4
OAS	190	Employability Skills	1
OAS	252	Microsoft Office for Windows	3

## Additional Requirements

## 9-10 Credit Hours

Select 10 credits from any CIS, IT, or OAS courses not listed above

\*Open Entry: North Central is now offering Computer Networking (IT) courses in an "open entry" format. This means you may, with instructor approval, sign up for a class designated as "OE" after the standard drop/add date. The open entry format enables you to work at your own pace. With the instructor's permission, you may register for and begin additional OE courses no later than the end of the 12th week of the semester. Immediate payment will be expected upon enrollment and all OE courses for which you have registered must be completed by the end of the semester. Financial aid restrictions may apply.

All IT courses are scheduled as TBA. This means "to be arranged" and indicates they are self-paced courses. You should see your professor the first week of the semester to set up your personal timetable.

(continued...)

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B 104 Business Math **or**  
MATH 100 Mathematical Reasoning **or higher**  
CIS 100 Introduction to Computing  
ENG 111 English Composition I  
IT 101 Network +  
Elective

### Semester II (Winter)

ENG 112 English Composition II  
IT 112 Windows Workstations  
IT 199 Help Desk Internship  
OAS 252 Microsoft Office for Windows  
Elective

### Semester III (Fall)

CAP 135 Web Page Design  
CIS 104 Intro to Program Logic  
CIS 140 Introduction to UNIX  
COM --- Any COM class  
Elective

### Semester IV (Winter)

CIS 120 PC Operating Systems I  
IT 222 Network Security Fundamentals  
IT 280 Internship  
Any Social Science class

# Computer Support Specialist

**Certificate • Program Code: 148 • Credit Hours: 30-31 • Contact Hours: 31-32**

Associate Dean: **Peter Olson** Faculty Contact: **Fred Harrington**

North Central's Computer Support Specialist Certificate is a good starting point for students desiring an entry level job in the information computing technology support field. The courses provide the student with the foundation knowledge and skills needed to pass the Internet and Computing Core Certification (IC-3<sup>®</sup>) examination as well as the Core level Microsoft Technology Associate (MTA) Fundamental Networking and Security examinations. Students completing the Computer Support Specialist Certificate are qualified for employment as help desk technicians and have a good start towards the Computer Support Specialist Associate of Applied Science. To earn this North Central Certificate the student must pass the IC-3, and the MTA Fundamental Networking and Security examinations.

## General Education Requirements

General Education Requirements			9-10 Credit Hours
ENG	111	English Composition I	3
B	104	Business Math <b>or</b>	
MATH	---	Any MATH course 100 <b>or higher</b>	3/4
COM	---	Any COM course	3

## Program Requirements

Program Requirements			21 Credit Hours
CIS	100	Introduction to Computing	3
CIS	120	PC Operating Systems I	3
IT	101	*Network +	3
IT	112	*Windows Workstations	2
IT	199	*Help Desk Internship	4
IT	222	*Network Security Fundamentals	3
OAS	252	Microsoft Office for Windows	3

\*Open Entry: North Central offers Computer Networking (IT) courses in an "open entry" format. This means you may, with instructor approval, sign up for a class designated as "OE" after the standard drop/add date. The open entry format enables you to work at your own pace. With the instructor's permission, you may register for and begin additional OE courses no later than the end of the 12th week of the semester. Immediate payment will be expected upon enrollment and all OE courses for which you have registered must be completed by the end of the semester. Financial aid restrictions may apply.

All IT courses are scheduled as TBA. This means "to be arranged" and indicates they are self-paced courses. You should see your professor the first week of the semester to set up your personal timetable.

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	104	Business Math <b>or</b>	
MATH	---	Any MATH course 100 <b>or higher</b>	
CIS	100	Introduction to Computing	
ENG	111	English Composition I	
IT	101	Network +	
IT	112	Windows Workstations	

### Semester II (Winter)

CIS	120	PC Operating Systems I	
OAS	252	Microsoft Office for Windows	
IT	222	Network Security Fundamentals	
IT	199	Help Desk Internship	
COM	---	Any COM course	

# Geographic Information Systems

Associate of Applied Science • Program Code: 236 • Credit Hours: 61-62 • Contact Hours: 68-72

Associate Dean: Peter Olson

The Geographic Information Systems associate of applied science degree program offers hands-on technical training that prepares graduates for jobs in cartography, computer programming, database management, business development, urban planning, government and defense. GIS technology is used for scientific investigations, resource management, asset management, archaeology, environmental impact assessment, urban planning, cartography, criminology, geographic history, marketing, logistics, and other purposes.

## General Education Requirements

			12 Credit Hours
ENG	111	English Composition I	3
ENG	112	English Composition II	3
PLS	141	Introduction to American Government	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3

## Program Requirements

			39-40 Credit Hours
GIS	110	Geographic Information Systems I	3
GIS	120	Geographic Information Systems II	3
GIS	130	Applications in Geographic Information Systems	3
GIS	150	Global Positioning Systems	3
GEO	150	Cartography	3
ESC	210	Remote Sensing	3
GIS	285	Work-Based Learning-GIS	1-2
BIO	101	Introduction to Bio <b>or</b>	
BIO	151	General Bio I <b>or</b>	
BIO	152	General BIO II	4/4/4
GEO	111	Environmental Geography	3
GEO	121	World Geography	4
ESC	121	Physical Geology	4
STAT	200	Statistics	3
CIS	104	Introduction to Programming Logic	3

## Additional Requirements

			9 Credit Hours
TDT	130	CAD I	3
TDT	132	CAD III (Advanced AutoCAD)	3
CIS	115	C++ Programming I	3
CIS	215	Database Design and Management	3
CIS	105	Visual Basic Programming I	3
CIS	225	Introduction to Java Programming I	3
PLS	225	Citizen Politics at Local Level	3
BIO	220	Natural Resource Management	3
BIO	265	Environmental Biology	3
M	200	Introduction to Marketing	3
M	220	Marketing and Management Strategy	3
CAP	135	Web Page Design	3
CAP	210	Advanced Web Page Design	3
B	200	Principles of Management	3
B	201	Human Resource Management	3

# Human Services/Social Sciences

# Early Childhood Education

Associate of Applied Science • Program Code: 280 • Credit Hours: 60-61 • Contact Hours: 61-63

Coordinator: Jo-Anna Kolodziej

The Early Childhood Education Associate of Applied Science program prepares students for immediate entry into the workforce educating and caring for young children in a variety of settings. Graduates are prepared to teach in Head Start programs, preschools, childcare centers, and primary grade classrooms as instructional aides. Graduates are also prepared to be child care center directors. Early Childhood Education professionals have specialized training in the care and education of children birth to age eight.

This degree also prepares students for transfer to Baccalaureate programs in early childhood education in human services AND elementary teacher education with a major or minor in early childhood education (Elementary Teacher Certification Option II). This degree allows students to complete their MACRAO agreement for general education coursework and transfer into Baccalaureate programs in early childhood education, family life studies, social work, and elementary education option II. Upon graduation, students will have approximately 200 hours of combined observation and participation experience in early childhood classrooms.

Early Childhood Education students will need to have transportation to and from field placements, meet state licensing health and safety requirements for adults working with children in early childhood classrooms, pass a background check, and perform within the guidelines of the participating agencies during field placements in ECE 282 Practicum/Seminar. Students are required to meet with the Early Childhood Education Program Coordinator for the required paperwork and program audit prior to enrollment in ECE 282 Practicum.

A Baccalaureate in Early Childhood Education is available through Lake Superior State University on the campus of North Central Michigan College. A list of required courses, which includes the NCMC AAS ECE degree, is provided on a curriculum guide sheet. Students can contact the Early Childhood Education Coordinator (231) 439-6224, LSSU's Petoskey office at (231)348-6623, or Student Services (231) 348-6605, for the LSSU B.S. curriculum guide sheet.

A Baccalaureate in Elementary Education with a minor in early childhood education is available through Spring Arbor University on the campus of North Central Michigan College. A list of required prerequisites, incorporating the NCMC ECE AAS degree, is available through the Spring Arbor University Center office at (231) 439-6203, the NCMC Early Childhood Education Program Coordinator (231) 439-6224, or Student Services (231) 348-6605.

<b>General Education Requirements</b>			<b>26 Credit Hours</b>
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech	3
PSY	161	Intro to Psychology (elementary teacher certification) <b>or</b>	
SOC	171	Intro to Sociology (human services)	3/3
BIO	101	Intro to Biology with lab (elementary teacher certification) <b>or</b>	
BIO	133	Human Biology with lab (human services)	4/4
		Lab Science course from CEM, ESC, PHY <b>or</b>	
MATH	112	Beginning and Intermediate Algebra (Part II) <b>or</b>	
MATH	120	Intermediate Algebra <b>or higher</b>	4/4/4
ART	105	History of Art I <b>or</b>	
ART	106	History of Art II	3/3
MU	120	History of Music	3
<b>(continued...)</b>			

## Program Requirements

## 34-35 Credit Hours

ECE	200	Foundations of Early Childhood Education	3
ECE	205	Curriculum and Methods	3
ECE	210	Infants and Toddlers	3
ECE	215	Child Guidance and Communication Skills	3
ECE	220	Children with Special Needs	3
ECE	225	Administration of Early Childhood Programs	3
ECE	282	Practicum/Seminar	7
EMS	101*	First Aid/CPR or current certification	0-1
ENG	240	Children's Literature	3
PSY	255	Child Psychology	3
SOC	271	Marriage and Family	3

\*Course may be waived (requirements met, but course credit not given) if the student presents documentation of current First Aid and CPR certifications.

Prior to enrolling in ECE 282 Practicum/ Seminar, students are required to meet with the ECE Program Coordinator for required field placement forms and a program audit.

## Suggested Sequence for Full time Students:

### Semester I (Fall)

ENG	111	English Composition I
PSY	161	Intro to Psychology (elementary teacher certification) <b>or</b>
SOC	171	Intro to Sociology (human services)
COM	111	Speech
ECE	200	Foundations of Early Childhood Education
ECE	215	Child Guidance and Communication Skills

### Semester II (Winter)

ENG	112	English Composition II
PSY	255	Child Psychology
BIO	101	Intro to Biology with lab (elementary teacher certification) <b>or</b>
BIO	133	Human Biology with lab (human services)
ECE	205	Curriculum and Methods
ECE	220	Children with Special Needs

### Semester III (Fall)

ENG	240	Children's Literature
MU	120	History of Music
ECE	210	Infants and Toddlers
ECE	225	Administration of Early Childhood Programs
Lab		Science course from CEM, ESC, PHY <b>or</b>
MATH	112	Beginning and Intermediate Algebra (Part II) <b>or</b>
MATH	120	Intermediate Algebra <b>or higher</b>

### Semester IV (Winter)

EMS	101	First Aid/CPR or current certification
ART	105	History of Art I <b>or</b>
ART	106	History of Art II
SOC	271	Marriage and Family
ECE	282	Practicum/Seminar

# Criminal Justice

**Associate of Applied Science • Program Code: 225 • Credit Hours: 60 • Contact Hours: 60**

**Coordinator: Catherine Castagne**

The AAS degree in Criminal Justice prepares students for employment opportunities in law enforcement, the courts or corrections. Students may take any course numbered 100 or higher to complete the elective credit hours. Students who demonstrate math competency are exempt from the mathematics requirement. Employee drug testing is the norm in this line of work. Medical screenings are required prior to employment. Law enforcement and corrections require training academy completion prior to State of Michigan certification.

## General Education Requirements

			<b>15-16 Credit Hours</b>
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or</b>	
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>	3/4/4
PLS	141	American Government	3

## Program Requirements

			<b>36 Credit Hours</b>
CJ	101	Criminology	3
CJ	102	Introduction to Criminal Justice	3
CJ	120	Introduction to Corrections	3
CJ	130	Police Process	3
CJ	202	Criminal Investigation	3
CJ	207	Criminal Law	3
CJ	210	Current Issues in Criminal Justice	3
CJ	217	Criminal Procedures	3
CIS	100	Introduction to Computers	3
PHL	105	Introduction to Ethics <b>or</b>	
PHL	109	Contemporary Moral Issues	3/3
PSY	161	Introduction to Psychology	3
SOC	171	Introduction to Sociology	3

## Electives

Any courses numbered 100 or higher

## 8-9 Credit Hours

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

CJ	102	Introduction to Criminal Justice
CIS	100	Introduction to Computers
ENG	111	English Composition I
B	104	Business Math <b>or</b>
MATH	100	Mathematical Reasoning <b>or</b>
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>
Elective		

### Semester II (Winter)

CJ	101	Criminology
ENG	112	English Composition II
PSY	161	Introduction to Psychology
Elective		

### Semester III (Fall)

CJ	120	Introduction to Corrections
CJ	130	Police Process
CJ	207	Criminal Law
PHL	105	Introduction to Ethics <b>or</b>
PHL	109	Contemporary Moral Issues
PLS	141	American Government

### Semester IV (Winter)

CJ	202	Criminal Investigation
CJ	210	Current Issues in Criminal Justice
CJ	217	Criminal Procedures
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
Elective		



# Criminal Justice

Associate of Applied Science in Law Enforcement

Program Code: 226 · Credit Hours: 67 · Contact Hours: 67

Coordinator: Catherine Castagne

In cooperation with Northwestern Michigan College

This program provides the student with the opportunity to attend a State-certified police academy and graduate from North Central with an Associate of Applied Science degree and Michigan Council on Law Enforcement Standards certification (MCOLES). Students interested in this program need to apply. Acceptance is competitive and is not guaranteed. A criminal background check is required for admission to the academy. See the North Central Criminal Justice Coordinator for more information. To complete this program within two years, a student will need to attend summer sessions. The second half of the program is completed at Northwestern Michigan College in Traverse City. Students must take and pass the MCOLES Reading and Writing and Pre-Enrollment Physical Fitness tests prior to starting coursework at Northwestern Michigan College. Both tests are offered regularly at NMC.

## North Central Michigan College Courses

## 31 Total NCMC Credit Hours

CIS	100	Introduction to Computers	3
CJ	101	Criminology	3
CJ	102	Introduction to Criminal Justice	3
CJ	120	Introduction to Corrections	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4
PLS	141	Introduction to American Government	3
PSY	161	Introduction to Psychology	3

## Northwestern Michigan College Courses

## 36 Total NMC Credit Hours

LWE	102	Police Operations	4
LWE	210	Cultural Diversity	2
LWE	214	Firearms	4
LWE	218	Physical Training	4
LWE	226	Michigan Criminal Law	3
HAH	200	Emergency Assessment and Intervention	3
LWE	212	Criminal Investigation	3
LWE	215	Defensive Driving	3
LWE	216	Traffic Enforcement	3
LWE	225	Defensive Tactics	4
LWE	227	Criminal Procedure	3

## Suggested Sequence for Full-Time Students at North Central:

### Semester I (Fall)

ENG	111	English Composition I
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
PSY	161	Introduction to Psychology
CJ	102	Introduction to Criminal Justice
CJ	120	Introduction to Corrections

### Semester II (Winter)

CJ	101	Criminology
ENG	112	English Composition II
PLS	141	Introduction to American Government
MATH	110	Beginning and Intermediate Algebra (Part I)
CIS	100	Introduction to Computers

# Criminal Justice

Associate of Applied Science in Law Enforcement

Program Code: 227 · Credit Hours: 63 · Contact Hours: 63

Coordinator: Catherine Castagne

In cooperation with Kirtland Community College

This program provides North Central students the opportunity to attend a State-certified police academy and graduate from North Central with an Associate of Applied Science degree and Michigan Council of Law Enforcement Standards (MCOLES) certification. Students attend North Central for approximately three semesters and then enter the Kirtland Regional Police Academy to complete their training. The academy has two full-time, 17-week sessions, one beginning in January and one in July of each year.

Students interested in this program need to apply. Acceptance is competitive and is not guaranteed. A criminal background check is required for admission to the academy. See the North Central Criminal Justice Coordinator for more information. Students must take and pass the MCOLES Reading and Writing and Pre-Enrollment Physical Fitness tests prior to starting coursework at Kirtland Community College. Both tests are offered regularly at KCC.

## North Central Michigan College Courses

## 42 Total NCMC Credit Hours

CIS	100	Introduction to Computers	3
CJ	101	Criminology	3
CJ	102	Introduction to Criminal Justice	3
CJ	120	Introduction to Corrections	3
CJ	130	Police Process	3
CJ	210	Current Issues in Criminal Justice	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4
PE	116/216	Physical Conditioning	2
PLS	141	Introduction to American Government	3
PSY	161	Introduction to Psychology	3
SOC	171	Introduction to Sociology	3

## Kirtland Community College Police Academy courses (17 weeks) 21 Credit Hours

### Suggested Sequence for Full-Time Students at North Central:

#### Semester I (Summer)

Starting semester to enter the following July academy

CIS	100	Introduction to Computers
PSY	161	Introduction to Psychology
MATH	110	Beginning and Intermediate Algebra (Part I)

#### Semester II (Fall)

CJ	102	Introduction to Criminal Justice
CJ	120	Introduction to Corrections
CJ	130	Police Process
CJ	210	Current Issues in Criminal Justice
PE	116 or PE 216 *	
ENG	111 or 112 **	

#### Semester III (Winter)

Starting semester to enter the following January academy

CJ	101	Criminology
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
PE	116 or PE 216 *	
ENG	111 or 112 **	
PLS	141	Introduction to American Government
SOC	171	Introduction to Sociology

\*PE 116 must be taken before PE 216

\*\* Depending on the starting semester

# Corrections (State)

**Certificate of Development • Program Code: 127 • Credit Hours: 17 • Contact Hours: 17**

**Coordinator: Catherine Castagne**

Minimum training and education requirements for the certification of local corrections officers (persons employed by a county sheriff in a local correctional facility as a corrections officer) have been established by the Michigan Sheriffs Coordinating and Training Council under the provisions of Act No. 125 of the Public Acts of 2003. North Central is evaluating whether or not it will offer a local corrections officer certification program once the minimum requirements have been established. Students interested in such a program should contact North Central's Criminal Justice Program coordinator for more current information.

This 17-credit hour program provides students with the minimum academic credits\* necessary for employment as a Corrections Officer with the Michigan Department of Corrections (MDOC). Students may take the State "Entry-Level Security Exam" at any time by submitting an application to the Michigan Department of Civil Service.\*\* Students who meet the educational requirements and pass the Civil Service examination will be eligible for further consideration.

Prior to being offered a position, a student must submit to a thorough background investigation. If offered a position, the student must also pass a medical exam, a drug screen and a physical fitness test. Certification as a Corrections Officer also requires successful completion of a 320-hour training academy conducted by the MDOC and two months of on-the-job training.

\* Credits must be earned before employment. Possession of 30 semester credits in any major, earned prior to one's date of hire is also acceptable.

\*\* The Civil Service examination is waived for those holding any bachelor's degree.

## Program Requirements

CJ	120	Introduction to Corrections	3
PE	116	Introduction to Physical Conditioning	1
PE	216	Advanced Physical Conditioning	1

## 17 Total Credit Hours

## Additional Requirements

Plus a total of 12 credits selected from the following courses:

CJ	101	Criminology	3
CJ	102	Introduction to Criminal Justice	3
CJ	130	Police Process	3
CJ	202	Criminal Investigation	3
CJ	207	Criminal Law	3
PSY	161	Introduction to Psychology	3
PSY	241	Abnormal Psychology	3
SOC	120	Contemporary Social Problems	3
SOC	171	Introduction to Sociology	3
SOC	208	Juvenile Delinquency	3
SOC	230	Race and Ethnicity	3
SOC	250	Deviant Behavior	3

## 12 Credit Hours

# Law Enforcement Aide

Certificate • Program Code: 125 • Credit Hours: 31 • Contact Hours: 31

Coordinator: Catherine Castagne

Prepares the student for employment in a police or sheriff's department or institutions such as prisons or security companies. With a strong demand for aides who provide clerical support to relieve law enforcement officers of the burden of paperwork and other tasks, individuals with specialized training are considered highly employable.

## Program Requirements

Program Requirements			31 Credit Hours
B	104	Business Math	3
CAP	101	Internet Searching and Researching	1
CJ	101	Criminology	3
CJ	102	Introduction to Criminal Justice	3
COM	170	Interpersonal Communication	3
ENG	111	English Composition I	3
OAS	101	Customer Service	1
OAS	121	Keyboarding <b>or</b>	
OAS	122*	Document Processing I	3/3
OAS	141	Filing and Records Management	2
OAS	241	Administrative Procedures	3
OAS	252	Microsoft Office for Windows	3
OAS	285**	Work-Based Learning – OAS	3

\* OAS 121 or equivalent is the prerequisite for OAS 122

\*\* If OAS 285 is not offered, see program coordinator

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
COM	170	Interpersonal Communication
CJ	102	Introduction to Criminal Justice
OAS	141	Filing and Records Management
OAS	121	Keyboarding <b>or</b>
OAS	122	Document Processing I
CAP	101	Internet Searching and Researching

### Semester II (Winter)

B	104	Business Math
CJ	101	Criminology
OAS	101	Customer Service
OAS	252	Microsoft Office for Windows
OAS	241	Administrative Procedures
OAS	285	Work-Based Learning – OAS

# Legal Assistant

Associate of Applied Science • Program Code: 276 • Credit Hours: 65 • Contact Hours: 65

Coordinator: Catherine Castagne

The Legal Assistant program is designed to train individuals to be qualified to work in a variety of environments. The roles and job responsibilities of a legal assistant vary depending on the employment setting and emphasis. Areas of employment for graduates include litigation, corporate law, criminal law, governmental offices and real estate.

To be successful in the program, a student should have a strong work ethic, strong verbal and written communication skills, be well-organized and detail-oriented, possess excellent ethics, be self-motivated, have good human relations skills, and be able to think logically.

## General Education Requirements

## 16 Credit Hours

COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
ENG	111	English Composition I	3
ENG	112	English Composition II	3
MATH	112	Beginning and Intermediate Algebra (Part II) <b>or</b>	
MATH	120	Intermediate Algebra	4/4
PLS	141	Introduction to American Government	3

## Program Requirements

## 49 Credit Hours

B	211	Accounting Principles I	4
B	290	Business Law I	3
B	291	Business Law II	3
CJ	207	Criminal Law	3
LA	200	Law Office Management and Legal Ethics	3
LA	201	Research, Writing and Analysis I	3
LA	202	Research, Writing and Analysis II	3
LA	203	Litigation Preparation and Procedure	3
LA	204	Civil Procedure and Rules of Evidence	3
LA	205	Real Estate Law	3
LA	206	Probate Law	3
LA	207	Family Law	3
LA	208	Tort Law	3
LA	210	Internship	3
PHL	101	Introduction to Philosophy <b>or</b>	
PHL	102	Introduction to Logic	3/3
PSY	161	Introduction to Psychology <b>or</b>	
SOC	171	Introduction to Sociology	3/3

**Total Credit Hours 65**

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
LA	200	Law Office Management and Legal Ethics
LA	201	Research, Writing and Analysis I
PSY	161	Introduction to Psychology <b>or</b>
SOC	171	Introduction to Sociology
PLS	141	Introduction to American Government

(continued...)

### **Semester II (Winter)**

COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
ENG	112	English Composition II
LA	202	Research, Writing and Analysis II
LA	203	Litigation Preparation and Procedure
MATH	112	Beginning and Intermediate Algebra (Part II) <b>or</b>
MATH	120	Intermediate Algebra
PHL	101	Introduction to Philosophy <b>or</b>
PHL	102	Introduction to Logic

### **Semester III (Fall)**

B	211	Accounting Principles I
B	290	Business Law I
CJ	207	Criminal Law
LA	204	Civil Procedure and Rules of Evidence
LA	205	Real Estate Law

### **Semester IV (Winter)**

B	291	Business Law II
LA	206	Probate Law
LA	207	Family Law
LA	208	Tort Law
LA	210	Internship

# Legal Assistant

Certificate of Development • Program Code: 177 • Credit Hours: 21-22 • Contact Hours: 21-22  
Coordinator: Catherine Castagne

This certificate of development program is ideal for those students currently working in an office environment, or those wishing to enter such a setting. Students will gain a basic understanding of the legal field while improving business and written communication skills.

## Program Requirements

## 18-19 Credit Hours

B	111	Accounting Procedures <b>or</b>	
B	211	Accounting Principles I	3/4
ENG	111	English Composition I	3
ENG	112	English Composition II	3
LA	200	Law Office Management and Ethics	3
LA	201	Research Writing & Analysis I	3
LA	203	Litigation Preparation & Procedure	3

## Additional Requirements

## (choose one course)

LA	205	Real Estate Law	3
LA	206	Probate Law	3
LA	207	Family Law	3
LA	208	Tort Law	3

## **Health Sciences/Allied Health**



# Certified Nurse Aide

Certificate of Development • Program Code: 197 • Credit Hours: 18 • Contact Hours: 20

Associate Dean: Peter Olson

Students who complete AH 154 (Certified Nurse Aide Training) will be eligible to take the certified nurse aide (CNA) examination in the State of Michigan. These students will be prepared for immediate employment in long-term care facilities, home health care, physicians' offices and hospitals. Students who complete North Central's Certificate of Development program (which includes AH 154) will be better prepared for advancement in the healthcare field. Classes other than AH 154 may be taken either in conjunction with CNA training or separately.

CNA training includes classroom instruction, hands-on practice in a clinical laboratory, and clinical instruction in a long-term care facility. The CNA training class may be offered in both four-week and semester formats. Students will be required to meet immunization standards of the clinical facilities and will be subject to a criminal background check.

## Program Requirements

Program Requirements			18 Credit Hours
AH	154	Certified Nurse Aide Training	5
ENG	111	English Composition I	3
OAS	116	Medical Terminology	3
COM	170	Interpersonal Communication	3
PSY	161	Introduction to Psychology <b>or</b>	
SOC	171	Introduction to Sociology	3/3

## Additional Requirements

Additional Requirements			(choose one course)
OAS	101	Customer Service	1
OAS	190	Employability Skills	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

# EMS/Paramedic Program

The mission of the EMS/Paramedic Program at North Central Michigan College is to prepare students in the most effective way to become intelligent, competent, and compassionate providers of emergency care. The EMS/Paramedic Program at North Central offers students four levels of study to prepare them to work in pre-hospital emergency support services. Students in each of these programs are expected to complete a rigorous course of study and to meet minimum requirements established by the licensing board of the State of Michigan. All programs are licensed by the Michigan Department of Community Health, are overseen by a physician director, advised by a committee of area EMS providers and employers and meet or exceed national guidelines.

North Central offers students four EMS programs - two leading to licensure as an EMT-Paramedic (Program Codes 253 and 153), and two leading to licensure as an EMT-Basic (Program Codes 152 and 053). In addition, successful completion of EMS 120 and EMS 130 enables the student to sit for National Registry certification and, if successful, eventual licensure as an EMT-Specialist in Michigan (see below for more information).

The Associate of Applied Science degree (Program Code 253) prepares students to function at advanced levels for pre-hospital emergency support services. Successful graduates are eligible to sit for the National Registry Exam which opens employment opportunities in many other states in the pre-hospital fields of EMS, public safety, and fire rescue. Graduates may also work in the emergency departments of hospitals and free-standing clinics, and work as safety coordinators for industrial plants. Students are expected to complete a rigorous course of study and to meet minimum requirements established by the Michigan Department of Community Health.

Admission to the College (and, by separate application, to the Program itself) is required, assessment testing is required, and financial aid may be available. The program also requires that students commit time (approximately 75 hours per semester) beyond that spent in the classroom to complete program requirements and expectations. To obtain State of Michigan licensure in this field, an individual must be at least 18 years of age.

The Associate of Applied Science degree is frequently considered the minimum qualification necessary to be employed in management positions in EMS; in terms of preparation for licensure as an EMT-Paramedic, the Associate of Applied Science degree (Program Code 253) and the EMS/Paramedic Certificate (Program Code 153) are identical.

Successful completion of EMS 120 and EMS 130 enables the student to sit for the Advanced EMT National Registry Exam (leading to licensure as an EMT-Specialist in Michigan.) Students wishing to gain experience as EMT-Specialists may elect to leave the program and work after completing the necessary registry examinations and gaining state licensure. These students may re-enter the EMS/Paramedic program within one year without re-taking EMS 120 and EMS 130.

Students who already possess National Registry status as EMT-Specialists or possess a Michigan EMT-Specialist license must begin the paramedic program with EMS 120 unless they have successfully completed EMS 120 and EMS 130 at North Central within one year of the time of registration into EMS 220.

The EMS/Paramedic Certificate (Program Code 153) prepares students to function at advanced levels for pre-hospital emergency support services. Successful graduates are eligible to sit for the National Registry Exam which opens employment opportunities in many other states in the pre-hospital field of EMS, public safety, and fire rescue. Graduates may also work in the emergency departments of hospitals and free-standing clinics, and work as safety coordinators for industrial plants. Students are expected to complete a rigorous course of study and to meet minimum requirements established by the Michigan Department of Community Health.

Admission to the College (and, by separate application, to the Program itself) is required, assessment testing is required, and financial aid may be available. The program also requires that students commit time (approximately 75 hours per semester) beyond that spent in the classroom to complete program requirements and expectations. To obtain State of Michigan licensure in this field, an individual must be at least 18 years of age.

The Associate of Applied Science degree is frequently considered the minimum qualification necessary to be employed in management positions in EMS; in terms of preparation for licensure as an EMT-Paramedic, the Associate of Applied Science degree (Program Code 253) and the EMS/Paramedic Certificate (Program Code 153) are identical.

Successful completion of EMS 120 and EMS 130 enables the student to sit for the Advanced EMT National Registry Exam (leading to licensure as an EMT-Specialist in Michigan.) Students wishing to gain experience as EMT-Specialists may elect to leave the program and work after completing the necessary registry examinations and gaining state licensure. These students may re-enter the EMS/Paramedic program within one year without re-taking EMS 120 and EMS 130.

Students who already possess National Registry status as EMT-Specialists or possess a Michigan EMT-Specialist license must begin the paramedic program with EMS 120 unless they have successfully completed EMS 120 and EMS 130 at North Central within one year of the time of registration into EMS 220.

EMS Certificate of Development (Program Code 152). Admission to the College is required, assessment testing is required, and financial aid may be available. This Certificate of Development allows the student to meet federal guidelines to qualify for financial aid. The student will be eligible to sit for the National Registry Exam and, upon successful completion, be licensed as an Emergency Medical Technician—Basic in the pre-hospital field of EMS, public safety, and fire rescue in many states.

Emergency Medical Technician course (Program Code 053). Admission to the College is required; however, no assessment testing is required and students do not qualify for financial aid. The student will be eligible to sit for the National Registry Exam and, upon successful completion, be licensed as an Emergency Medical Technician—Basic in the pre-hospital field of EMS, public safety, and fire rescue in many states. This is a non-degree program.

### **Application Procedure for EMS/Paramedic Program •Program Codes 253 and 153 only•**

Students must complete an Application for Admission to the College as well as a separate EMS/Paramedic Program Application (which is part of the “Allied Health Program Application,” available here: [www.ncmich.edu/pdfs/Allied\\_Health\\_Application.pdf](http://www.ncmich.edu/pdfs/Allied_Health_Application.pdf) ); this application should be sent directly to the Associate Dean of Health, Business, and Technology by July 1 for anticipated September entry. All transcripts to be reviewed for consideration of prior course work should be received by the Registrar at North Central prior to consideration for entry into the program.

A candidate’s signature on the program application authorizes a criminal background check; students may be denied admission to the program based on the results of this check. In addition, a student who has been convicted of a felony or is on probation may not be eligible to take the National Registry examination and/or be licensed by the State of Michigan. Contact the Michigan Department of Community Health (517-241-3024 or [www.michigan.gov/mdch/0,1607,7-132-2946\\_5093\\_28508---,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2946_5093_28508---,00.html) ) and/or the National Registry of EMTs (614-888-4484, or [www.nremt.org](http://www.nremt.org) ) for more information regarding this policy.

Students interested in the EMS/Paramedic program are encouraged to contact the Associate Dean of Health, Business, and Technology as soon as possible for specific assistance with both the admissions process and with individual course counseling.

Admission to the Emergency Medical Service/Paramedic program (program codes 153 and 253) is competitive, and there is no guarantee of admission. The top candidates are chosen by an Admissions Committee in the summer preceding each September entry date. Because of the nature of this program, in addition to the general admission requirements of the College, applicants will be ranked according to the system outlined below. Only the top 15 candidates will be admitted to the program.

Applicants should submit applications by July 1 of the year of their anticipated September entry.

Students are ranked on the basis of the following:

- Successful completion of EMS 110 (students may apply to the Program before they have successfully completed the National Registry EMT-Basic exam, but they must successfully complete the Registry EMT-Basic exam before they will be allowed to enter EMS 130, if admitted to the Program),
- or proof of a valid EMT--Basic license;
- COMPASS testing (Reading, Math, and Writing, or ACT) results, or
- Placement into college courses (must place into at least ENG 111 or above and MATH 110 or above)
- Relevant work and/or volunteer experience, as demonstrated on the Visit, Volunteer, Work Experience Form (part of the Allied Health Program Application).

These admission requirements reflect the College's commitment to equal opportunity and treatment of students.

Since the EMS/Paramedic program is rigorous and demanding, a good state of physical and emotional health is necessary. Interested students are encouraged to consult the North Central Michigan College Allied Health Student Handbook for a concise statement of the functional abilities required for training and employment in this profession.

Once accepted, students are required to:

- Submit a comprehensive Medical History form completed by a physician;
- Submit proof of the following immunizations (and maintain proof as indicated):
  - negative tuberculin test annually (or negative chest x-ray in case of positive skin test);
  - proof of Hepatitis B immunization (or titre);
  - proof of varicella immunization (or titre);
  - proof of annual influenza immunization;
  - proof of measles, mumps, rubella immunization (or titre);
- Submit proof of and maintain current health insurance (or if uninsured, contact Student Services for information on health insurance plans for college students) for the duration of the EMS/Paramedic program;
- Submit proof of and maintain current Basic Life Support for Healthcare Providers status.

The EMS/Paramedic Program reserves the right, as part of its normal review of students who have been placed on probationary status in the program (see the Allied Health Student Handbook) to ask students to leave the program at any time or at the completion of EMS 130 (allowing these students to pursue certification/licensure as Advanced EMTs (National Registry) or EMT-Specialists (Michigan)).

Occasionally, depending on enrollment applications to the EMS/Paramedic program, a limited number of slots in EMS 120 and EMS 130 will be available to students wishing only to pursue the option of testing at the AEMT level from the National Registry (leading to licensure as an EMT-Specialist in Michigan). The application procedure for these students is identical to the regular EMS/Paramedic program (either Program Code 253 or 153), and these students will follow the same curriculum (including the co-requisite to EMS 120, BIO 133) as those admitted to the paramedic program at the same time for EMS 120 and 130. These students, however, will not be allowed to continue into EMS 220, 230, and 270 unless slots become available through attrition.

# Emergency Medical Services/Paramedic

Associate of Applied Science • Program Code: 253 • Credit Hours: 60 • Contact Hours: 77

Associate Dean: Peter Olson

The mission of the EMS/Paramedic Program at North Central Michigan College is to prepare students in the most effective way to become intelligent, competent, and compassionate providers of emergency care.

The Associate of Applied Science degree (Program Code 253) prepares students to function at advanced levels for pre-hospital emergency support services. Successful graduates are eligible to sit for the National Registry Exam which opens employment opportunities in many other states in the pre-hospital field of EMS, public safety, and fire rescue. Graduates may also work in the emergency departments of hospitals and free-standing clinics, and work as safety coordinators for industrial plants. Students are expected to complete a rigorous course of study and to meet minimum requirements established by the Michigan Department of Community Health.

Admission to the College (and, by separate application, to the Program itself) is required, assessment testing is required, and financial aid may be available. The program also requires that students commit time beyond that spent in the classroom to complete program requirements and expectations. To obtain State of Michigan licensure in this field, an individual must be at least 18 years of age.

The Associate of Applied Science degree is frequently considered the minimum qualification necessary to be employed in management positions in EMS; in terms of preparation for licensure as an EMT-Paramedic, the Associate of Applied Science degree (Program Code 253) and the EMS/Paramedic Certificate (Program Code 153) are identical.

Successful completion of EMS 120 and EMS 130 enables the student to sit for the Advanced EMT National Registry Exam (leading to licensure as an EMT-Specialist in Michigan). Students wishing to gain experience as EMT-Specialists may elect to leave the program and work after completing the necessary registry examinations and gaining state licensure. These students may re-enter the EMS/Paramedic program within one year without re-taking EMS 120 and EMS 130.

Students who already possess National Registry status as EMT-Specialists or possess a Michigan EMT-Specialist license must begin the paramedic program with EMS 120 unless they have successfully completed EMS 120 and EMS 130 at North Central within one year of the time of registration into EMS 220.

All EMS/Paramedic program courses must be completed with at least a "C."

## Prerequisites

EMS 110 or current Michigan EMT Basic License. Placement into ENG 111 and MATH 110

## General Education Requirements

			<b>17 Credit Hours</b>
ENG	111	English Composition I	3
ENG	112	English Composition II	3
MATH	110*	Beginning and Intermediate Algebra (Part I)	4
COM	170	Interpersonal Communication	3
CEM	101	Fundamentals of Chemistry	4

\*Students who demonstrate math competency (ACT of 21 or 22, Compass of 146) are exempt from the mathematics requirement.

## Program Requirements

			<b>43 Credit Hours</b>
EMS	120	Paramedic I	6
BIO	133*	Human Biology with Lab	4
EMS	130	Paramedic II	9
EMS	220	Paramedic III	10
EMS	230	Paramedic IV	10
EMS	270	Paramedic Field Internship	4

\* must be taken before or concurrently with EMS 120

# Emergency Medical Services/Paramedic

Certificate • Program Code: 153 • Credit Hours: 43 • Contact Hours: 58

Associate Dean: Peter Olson

The mission of the EMS/Paramedic Program at North Central Michigan College is to prepare students in the most effective way to become intelligent, competent, and compassionate providers of emergency care.

The EMS/Paramedic Certificate (Program Code 153) prepares students to function at advanced levels for pre-hospital emergency support services. Successful graduates are eligible to sit for the National Registry Exam which opens employment opportunities in many other states in the pre-hospital field of EMS, public safety, and fire rescue. Graduates may also work in the emergency departments of hospitals and free-standing clinics, and work as safety coordinators for industrial plants. Students are expected to complete a rigorous course of study and to meet minimum requirements established by the Michigan Department of Community Health.

Admission to the College (and, by separate application, to the Program itself) is required, assessment testing is required, and financial aid may be available. The program also requires that students commit time beyond that spent in the classroom to complete program requirements and expectations. To obtain State of Michigan licensure in this field, an individual must be at least 18 years of age.

The Associate of Applied Science degree is frequently considered the minimum qualification necessary to be employed in management positions in EMS; in terms of preparation for licensure as an EMT-Paramedic, the Associate of Applied Science degree (Program Code 253) and the EMS/Paramedic Certificate (Program Code 153) are identical.

Successful completion of EMS 120 and EMS 130 enable the student to sit for the Advanced EMT National Registry Exam (leading to licensure as an EMT-Specialist in Michigan). Students wishing to gain experience as EMT-Specialists may elect to leave the program and work after completing the necessary registry examinations and gaining state licensure. These students may re-enter the EMS/Paramedic program within one year without re-taking EMS 120 and EMS 130.

Students who already possess National Registry status as EMT-Specialists or possess a Michigan EMT-Specialist license must begin the paramedic program with EMS 120 unless they have successfully completed EMS 120 and EMS 130 at North Central within one year of the time of registration into EMS 220.

All EMS/Paramedic program courses must be completed with at least a "C."

## Prerequisites

EMS 110 or current Michigan EMT Basic License Placement into ENG 111 and MATH 110

## Program Requirements

Program Requirements			43 Credit Hours
EMS	120	Paramedic I	6
BIO	133*	Human Biology with Lab	4
EMS	130	Paramedic II	9
EMS	220	Paramedic III	10
EMS	230	Paramedic IV	10
EMS	270	Paramedic Field Internship	4

\*must be taken before or concurrently with EMS 120.

# Basic Emergency Medical Services

Certificate of Development • Program Code: 152 • Credit Hours: 16 • Contact Hours: 19

Associate Dean: Peter Olson

This is the EMT Basic option. It is a Certificate of Development offering which requires an application to the College for admission, COMPASS testing, a physical exam, up-to-date immunizations including Hepatitis B, and a criminal background check. This program will allow the student to complete basic EMT training and be eligible for financial aid. This EMT basic course of study (or the equivalent) is needed to go on to the associate degree program.

## Program Requirements

## 16 Credit Hours

EMS	110	EMT Basic	9
MATH	100	Mathematical Reasoning	4
ENG	111	English Composition I	3

# Emergency Medical Technician

Non-Degree • Program Code: 053 • Credit Hours: 9 • Contact Hours: 12

Associate Dean: Peter Olson

This is a non-credit course offering which requires an application to the College for admission. No assessment testing is required. A physical exam, up-to-date immunizations including Hepatitis B and a criminal background check are required. This is for students who do not want financial aid. This is a non-degree program.

EMS	110	EMT Basic	9 Credit Hours
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# Medical Assistant

**Certificate • Program Code: 180 • Credit Hours: 31-33 • Contact Hours: 38-40**

Associate Dean: **Peter Olson**

Medical Assistant training provides diverse employment opportunities. Students in this program can develop skills necessary for entry-level employment in the healthcare field. Special emphasis is placed on increasing skills needed to work in physicians' offices and health clinics. Students must complete a minimum of 31 credit hours to earn a certificate in Medical Assisting. This program also has a Work-Based Learning component.

Since this program is very rigorous and demanding, students should consider carefully their outside work schedule given the requirements of the program, and especially in AH 285 (Work Based Learning Medical Assistant), where students will be placed for 10 hours each week of a normal semester in a clinical setting (20 hours each week in a shortened summer semester). Students should also realize that they may be expected to travel as much as 40-80 miles one way for work-based learning placements at regional offices or clinics so as not to overload a single clinical site with too many students. Every effort will be made to assign students to clinical and externship sites fairly.

Upon successful completion of the program and graduation from North Central Michigan College, students are eligible to take the Registered Medical Assistant certification examination offered by American Medical Technologies.

This is a selective admission program. Students must apply for entry into the program each time they wish to be considered (i.e. applications will not be kept on file from one application period to the next). To be considered for acceptance, students must be enrolled at North Central, have completed program prerequisites and have completed an Allied Health Program admission application. Applications must be submitted to the Associate Dean of Health, Business and Technology by March 1 for fall enrollment and October 1 for winter enrollment. Criteria for admission include completion of prerequisites, a minimum of C+ in prerequisite courses, and work experience. Acceptance is not guaranteed.

Students may not enroll in AH 107, AH 108, and AH 285 until they are accepted into the MA program.

North Central will order a criminal background check on all students accepted into the program. Students may be denied admission based on the results of the background check.

## Additional information

AH 130 and OAS 116 are prerequisites for entry. Students are strongly encouraged to complete B 104 or MATH 100 or above prior to enrolling in the program.

B 104 or MATH 100 or MATH 110 is a prerequisite for AH 180.

AH 107 and AH 108 and AH 180 and OAS 190 and OAS 216 or AH 107 and AH 108 and AH 180 and OAS 190 and OAS 220 and OAS 221 must be completed before enrollment into Work-Based Learning AH 285.

Students must show proof of current CPR certification (American Heart Association: BLS for Healthcare Providers or American Red Cross: CPR for the Professional Rescuer) prior to the start of AH 285. North Central's EMS 101, CPR and First Aid, satisfies this requirement.

Students must have basic computer skills, ability to type at 30 wpm and use a computer mouse, access the internet, and have knowledge of word-processing programs.

## Prerequisites

OAS	116	Medical Terminology	3
AH	130	Body Systems and Diseases	3

(continued...)



**Program Requirements**

AH	107	Medical Office Procedures I	3
AH	108	Medical Office Procedures II	2
B	104	Business Math <b>or</b>	
MATH	100	Mathematical Reasoning <b>or</b>	
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>	3/4/4
AH	180	Pharmacology for Medical Assistants	3
ENG	111	English Composition I	3
OAS	101	Customer Service	1
OAS	190	Employability Skills	1
OAS	141	Filing and Records Management	2
OAS	216	Medical Billing <b>or</b>	
OAS	220/221	Beginning Medical Billing/Beginning Medical Coding	3/4
AH	285*	Work-Based Learning Medical Assistant I	3

\*must complete AH 107, AH 108, AH 180, OAS 190, and OAS 216 or (OAS 220/OAS 221) prior to enrolling in this class

**31-33 Credit Hours****Additional Requirements**

			<b>(choose one course)</b>
CAP	100	Computers for the Very Beginner	1
OAS	110	Keyboarding Fundamentals	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

**Suggested Sequence for Full-Time Students:****Semester I (Fall)** (prior to acceptance into the program)

AH	130	Body Systems and Diseases
OAS	116	Medical Terminology
B	104	Business Math <b>or</b>
MATH	100	Mathematical Reasoning <b>or</b>
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>
OAS	101	Customer Service

**Semester III (Fall)**

AH	108	Medical Office Procedures II
OAS	190	Employability Skills
ENG	111	English Composition I

**Semester II (Winter)** (after acceptance into the program)

AH	107	Medical Office Procedures I
AH	180	Pharmacology for Medical Assistants
OAS	141	Filing and Records Management
OAS	216	Medical Billing

**Semester IV (Winter)**

AH	285	Work-Based Learning Medical Assistant I
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**Suggested Sequence for Part-Time Students:****Semester I (Fall)**

AH	130	Body Systems and Diseases
OAS	116	Medical Terminology
B	104	Business Math <b>or</b>
MATH	100	Mathematical Reasoning <b>or</b>
MATH	110	Beginning and Intermediate Algebra (Part I) <b>or higher</b>

**Semester III (Fall)**

AH	108	Medical Office Procedures II
OAS	141	Filing and Records Management
OAS	216	Medical Billing

**Semester II (Winter)**

AH	107	Medical Office Procedures I
AH	180	Pharmacology for Medical Assistants
OAS	190	Employability Skills

**Semester IV (Winter)**

AH	285	Work-Based Learning Medical Assistant I
OAS	101	Customer Service
ENG	111	English Composition I

# Medical Billing and Coding

Certificate of Development • Program Code: 179 • Credit Hours: 16 • Contact Hours: 16-17

Associate Dean: Peter Olson

This certificate is designed for students interested in the high-demand and fast-growing field of medical billing and coding. Both private and government insurance companies are insisting on accurate and consistent medical records and on precise coding to assure proper reimbursement. The coder/biller is critical to the successful operation of clinics, doctors' offices and hospitals. This certificate provides the skills students need to seek entry-level employment in this field.

There are two main certification organizations for this professional: the American Health Information Management Association ([www.ahima.org](http://www.ahima.org)) and the American Academy of Professional Coders ([www.aapc.com](http://www.aapc.com)). Students are encouraged to investigate and pursue certification opportunities.

The majority of the classes for this certificate are normally offered online, as indicated by the "OL" designation below. Consult each semester's schedule.

## Program Requirements

## 16 Credit Hours

BIO	133*	Human Biology	4
OAS	116	Medical Terminology OL	3
OAS	190	Employability Skills	1
OAS	220**	Beginning Medical Coding OL	2
OAS	221**	Beginning Medical Billing OL	2
OAS	230	Advanced Medical Coding ICD-9-CM OL	2
OAS	231	Advanced Medical Coding CPT OL	2

\* Can be satisfied with AH 130 Body Systems and Diseases

\*\* OAS 220 and OAS 221 can be satisfied with OAS 216 Medical Billing

## Course Recommendations:

Students are encouraged to complete BIO 133/AH 130 and OAS 116 prior to taking the Coding and Billing classes.

# Medical Transcriptionist

Certificate • Program Code: 163 • Credit Hours: 30 • Contact Hours: 30-31

Associate Dean: Peter Olson

This program prepares the student for an entry-level medical transcriptionist's position in a physician's practice or hospital/clinic setting. Medical transcriptionists fulfill an important role in the health care field. They must possess knowledge of medical terms and procedures, and have skill with computers and software to be successful.

## Program Requirements

## 30-31 Credit Hours

BIO	133*	Human Biology with Lab	4
ENG	111	English Composition I	3
OAS	116	Medical Terminology	3
OAS	117	Medical Transcription	3
OAS	122	Document Processing I	3
OAS	141	Filing and Records Management	2
OAS	190	Employability Skills	1
OAS	216**	Medical Insurance and Billing	3
OAS	223	Document Processing II	3
OAS	224	Transcription and Editing	4
OAS	285***	Work-Based Learning-OAS	2

\*may be satisfied with AH 130 Body Systems and Diseases

\*\*may be satisfied with OAS 220 & OAS 221 Beginning Medical Coding & Beginning Medical Billing

\*\*\*if OAS 285 is not on the schedule, see faculty advisor

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

ENG	111	English Composition I
OAS	116	Medical Terminology
OAS	122	Document Processing I
OAS	224	Transcription and Editing
OAS	141	Filing and Records Management

### Semester II (Winter)

BIO	133	Human Biology with Lab <b>or</b>
AH	130	Body Systems and Diseases
OAS	117	Medical Transcription
OAS	190	Employability Skills
OAS	216	Medical Insurance and Billing <b>or</b>
OAS	220/221	Beginning Medical Coding/Beginning Medical Billing
OAS	223	Document Processing II

# Nursing

**Associate of Applied Science • Program Code: 256 • Credit Hours: 72 • Contact Hours: 106**

**Associate Dean: Mary Miles**

North Central offers the Associate of Applied Science in nursing degree for students who upon completion of the program will be eligible to take the National Council Licensure Examination (NCLEX) for Registered Nurses. A nursing degree provides diverse opportunities for challenging jobs and advancement. Registered Nurses with an Associate of Applied Science degree are eligible to work in a variety of settings including a hospital, extended care facility, home health care and physician practice.

Nursing is a very competitive program and admission is based on a competitive ranking of applicants. Meeting program requirements and applying to the nursing program do not guarantee admission. Enrollment in any nursing course requires acceptance into the nursing program. Applications must be submitted by December 1 of the year prior to anticipated fall semester entry.

Upon acceptance into the program, students will be required to have a criminal background check completed by the State of Michigan. Students may be denied admission based on the results of the background check.

Questions should be directed to Admissions at 231-348-6626 or the Nursing and Allied Health Department at 231-348-6696. Check the North Central website [www.ncmich.edu/nursing.html](http://www.ncmich.edu/nursing.html) frequently for updates and changes.

## **Nursing Admission Requirements**

### **Competitive Admission**

Admission to the Nursing program is competitive and not guaranteed. Applicants must meet specific admission requirements in addition to the general admission requirements of the College. Candidates are chosen in the spring preceding each fall entry date.

### **Basis of Selection**

Students are selected based on the following:

- Amount of coursework completed within the Science Requirements and the General Education Requirements on the on the Nursing Applicant Advising Sheet. The Nursing Applicant Advising Sheet may be found on the web at [www.ncmich.edu](http://www.ncmich.edu). Go to Programs of Study, North Central Associate's degrees, and then Nursing.
- Calculated grade point average of the General Education Requirements and the Program Requirements on the Planning Form.
- Courses repeated more than one time may negatively influence admission.
- An applicant's credentials will be reviewed only if his/her high school or college cumulative grade point average is at least 2.75. Applicants should be aware that, traditionally, entering class grade point averages have been well above 3.0.
- Grades in science courses (BIO 235 and BIO 236). Science courses must be completed with a grade of "C" or better and no more than five years prior to admission to the nursing program.
- Scores on the Test of Essential Academic Skills (TEAS). Information about the TEAS may be found at [www.atitesting.com](http://www.atitesting.com). Announcement for dates and times for administration of the TEAS will be announced on the College web page in March.
- Students should be in good physical condition to meet the demands of the program. See Nursing Handbook under "Standards and Functional Abilities."
- LPNs or those transferring from other nursing program should note that nursing coursework will not transfer in if completed more than 2 years prior to admission to the program.

(continued...)

## Science Requirements

These courses must be completed before admission to the program. It is strongly recommended that these be completed with a "B" grade or better due to the competitive admission process. These courses must have been completed within five years of admission to program.

- \_\_\_ BIO 235 General Anatomy and Physiology I
- \_\_\_ BIO 236 General Anatomy and Physiology II

## General Education Requirements

These courses must be completed before admission to the program.

- \_\_\_ ENG 111 English Composition I
- \_\_\_ ENG 112 English Composition II
- \_\_\_ COM 111 Speech **or**
- \_\_\_ COM 170 Interpersonal Communication
- \_\_\_ PSY 161 Introduction to Psychology
- \_\_\_ PSY 261 Developmental Psychology

Students who are accepted into the program will be required to do the following:

- Have a criminal background check completed by the State of Michigan. Students may be denied admission based on the results of the background check;
- Provide a medical history form available from the Nursing and Allied Health Department and completed by a physician. Students should be in good physical condition to meet the demands of the program and the profession as outlined in the Nursing Handbook under "Standards and Functional Abilities." Abilities include lifting at least 35 pounds, standing for up to two hours at a time, walking quickly in crowded spaces, climbing 50 stairs, and pushing 100 pounds;
- Provide annual proof of a negative tuberculin test or negative chest x-ray in case of positive skin test;
- Keep all required immunizations up to date including Hepatitis B;
- Provide proof of current health insurance;
- Provide proof current Basic Life Support (BLS) for the Professional Rescuer;
- Adhere to the Nursing Code of Conduct;
- Attend a mandatory orientation program prior to the fall semester.

## Steps for Nursing Program Applicants

- **Sign up for the Student and Community Portal.** You will be signing up for college services you will need such as registration, accessing your grades, free Google e-mail, wireless service, use of College computers, and library access. Go to [www.ncmich.edu](http://www.ncmich.edu) and click on Student and Community Portal. Once you have completed the Portal Access page you will be directed to Step Two.
- **Apply for admission to North Central.** You will be notified of your status by mail.
- **Submit your ACT scores or take the COMPASS.** Assessment is mandatory. Submit ACT scores or take the COMPASS offered by the College at no cost. If you are entering college directly from high school and have taken the ACT, these results must be on file in the North Central Admissions Office. Applicants no longer in high school are not required to take the ACT. Students with prior college experience may be exempt from assessment; call Admissions for information.
- **Submit your transcripts.** Separate official transcripts must be sent to both the College and the Nursing and Allied Health Department from each other college and university that you have previously attended. Request these as early as possible so that prior course work may be evaluated to determine if nursing applicant requirements have been met. If North Central is the only college you have attended, the Nursing and Allied Health Department will obtain your North Central transcript. The College may accept credits for transfer that will not be eligible to meet nursing program requirements.

(continued...)

- **Attend a Nursing Program Information Session.** It is strongly recommended that students interested in the nursing program attend a Nursing Program Information Session. These sessions are held every month during the academic year and give detailed information regarding admission requirements, course requirements, program expectations, and estimated costs. See the college website for session dates and times at [www.ncmich.edu/nursing.html](http://www.ncmich.edu/nursing.html).
- **Program Advising.** All new applicants who list “256 Nursing” as their program of study have the option of meeting with a nursing faculty member for program advising. If you would like to meet with a nursing advisor, please contact Kim Kingsbury at 231-348-6696 to schedule an appointment. Plan to be in regular contact with your faculty advisor as you plan your schedule.
- **Apply for admission to the Nursing Program as early as possible.** The application is available on line at [www.ncmich.edu/nursing.html](http://www.ncmich.edu/nursing.html). The deadline is December 1 of the year prior to anticipated fall entry. However, early submittal prior to the deadline gives the Nursing faculty more time to process a student’s application. You should continue to take any of the non-nursing course requirements and submit your Application for Admission to the Nursing Program in order to meet the December deadline. Admission decisions are made and communicated to applicants in April or May by the Nursing and Allied Health Department.

…The nursing program is very demanding. It is strongly recommended that nursing students limit their outside employment to no more than 20 hours per week. …

## General Education and Science Requirements

### General Education Requirements

ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
PSY	161	General Psychology	3
PSY	261	Developmental Psychology	3

### Science Requirements

BIO	235	Anatomy and Physiology I	4
BIO	236	Anatomy and Physiology II	4

### Sequence of Nursing Courses

**49 Credit Hours**

#### Fall Semester • 1st Year •

**14 Credit Hours**

NUR	110	Introduction to Health Care Concepts 10 (7-5-4)	10
NUR	130	Health System Concepts 2 (2-0-0)	2
AH	116	Math for Health Professions 2(2-0-0)	2

#### Winter Semester

**13 Credit Hours**

NUR	150	Health Illness Concepts 5 (3-0-6)	5
NUR	170	Holistic Health Concepts 5(3-0-6)	5
AH	280	Pharmacology 3 (3-0-0)	3

#### Fall Semester • 2nd Year •

**11 Credit Hours**

NUR	210	Family Health Concepts 5 (3-0-6)	5
NUR	230	Acute Health Concepts 5 (3-0-6)	5
NUR	250	Management of Care Concepts 1(1-0-0)	1

#### Winter Semester

**11 Credit Hours**

NUR	270	Complex Health Concepts 11(6-0-15)	11
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**Total Number of Credit Hours 72**

# LPN to RN Transition Program

Associate of Applied Science • Program Code: 256 • Credit Hours: 63 • Contact Hours: 91

Associate Dean: Mary Miles

This program is designed for Licensed Practical Nurses seeking an Associate of Applied Science in Nursing degree in order to take the NCLEX-RN. Waiver of any course requirements based on previous education does not relieve students in this advanced placement program from meeting the College's degree requirements of a minimum of 63 credit hours. If coursework is waived, students will be expected to complete courses in an appropriate area of study to meeting the minimum 63 credit hour degree requirement. LPN students are encouraged to non-nursing courses prior to acceptance in the advanced placement program.

This is a very competitive program. Meeting program requirements and applying to the nurse program do not guarantee admission. Enrollment in any nursing course requires acceptance into the nursing program. Applications must be submitted by December 1st of the year prior to anticipated fall semester entry. Non-nursing courses must be completed the summer session before entry. Completion of all science courses with a "C" or better is required no more than five years prior to admission to the program.

## Prerequisites

BIO	235	General Anatomy & Physiology
BIO	236	General Anatomy & Physiology II

## 8 Credit Hours

4  
4

## General Education Requirements

ENG	111	English Composition I
ENG	112	English Composition II
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
PSY	161	Psychology
PSY	261	Developmental Psychology

## 28 Credit Hours

3  
3  
3/3  
3  
3

## Program Requirements

AH	116	Math for Health Professionals
AH	280	Pharmacology
NUR	120	Nursing Process
NUR	130	Health Concepts
NUR	150	Health Illness Concepts
NUR	170	Holistic Health Concepts
NUR	210*	Family Health Concepts
NUR	230	Acute Health Concepts
NUR	250	Management of Care
NUR	270	Complex Health Concepts

## 35 Credit Hours

2  
3  
1  
2  
5  
5  
5  
5  
1  
11

\*LPNs may be eligible to waive NUR 210 based on testing and receiving a Proficiency Level 2 on the ATI exam.

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

BIO	235	General Anatomy & Physiology
ENG	111	English Composition I
PSY	161	Psychology

### Semester II (Winter)

BIO	236	General Anatomy & Physiology II
ENG	112	English Composition II
PSY	261	Developmental Psychology
COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication

(continued...)

**Semester III (Fall)**

NUR	120	Nursing Process
NUR	130	Health Concepts
AH	116	Math for Health Professionals

**Semester IV (Winter)**

NUR	150	Health Illness Concepts
NUR	170	Holistic Health Concepts
AH	280	Pharmacology

**Semester V (Fall)**

NUR	210	Family Health Concepts
NUR	230	Acute Health Concepts
NUR	250	Management of Care

**Semester VI (Winter)**

NUR	270	Complex Health Concepts
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# Phlebotomy Technician

**Certificate of Development • Program Code: 178 • Credit Hours: 16-17 • Contact Hours: 24**

Associate Dean: **Peter Olson**

A phlebotomy technician practices blood-collection techniques that include venipunctures and skin punctures to provide samples for lab analysis. Students will learn:

- Techniques and procedures to assist in various lab procedures;
- To recognize conditions that alter specimen collections handling and test results;
- To determine appropriate specimen collection supplies and equipment;
- How to assure appropriateness of lab tests;
- Communication techniques with laboratories, medical providers and patients;
- How to provide the best care possible and assure specimen integrity.

Upon successful completion of the PHLB program, students may write the exam for the American Society for Clinical Pathology (ASCP) Phlebotomy Technician (PbT) Certification.

## •••Important Program Information•••

Only 12 students will be admitted into the Phlebotomy program each academic year. The application process for the program is selective: application to the program does not guarantee admission. Applicants will be ranked for admission using both academic and non-academic criteria, including membership in the WOCTEP program (Waganakising Odawa Career and Technical Education Program), in recognition of WOCTEP's role in establishing the program itself. Students must successfully complete prerequisite courses and complete the application process by the application deadline.

**The Application Deadline is July 1 of each year.**

Students are strongly encouraged to consult with the Associate Dean of Health, Business and Technology early in the application process for advising concerning completion of prerequisite courses, specific admission requirements, coordination with other Allied Health programs (e.g. Medical Assistant, CNA) and membership in the WOCTEP program.

Applicant selection is finalized with the review of grades. Notification of acceptance occurs in early August. PHLB Tech program course requirements are taken in the fall (PHLB 101) and winter semesters (PHLB 102).

The PHLB Tech Program Application and the Pre-Admission Medical History Form are available on line. Go to [www.ncmich.edu](http://www.ncmich.edu), Programs of Study; under Certificates of Development choose Phlebotomy Program (Code 178) to access forms and information.

## Phlebotomy Program Requirements

- Proof of high school diploma or GED.
- Complete and submit a PHLB Technician Program Application for Admission by the deadline date.
- Successfully complete prerequisite courses listed below.
- Submit official college transcripts, if needed.
- Provide written documentation of immunizations specified on program application.
- Provide current CPR, BLS for Professional Rescuer or complete EMS 101.
- Submit completed Pre-Admission Medical History form.
- A criminal background check will be conducted.

## Other Program Information

- A Student Handbook will be provided to the student upon acceptance into the program.
- PHLB 101 (Theory and Lab) may be held at the LTBB Health Park.
- PHLB 102 (Clinical Practicum) will be held at various labs in the area.
- Students may be required to travel distances and participate in evening and/or weekend rotations.
- Students may be denied admission based on the results of the criminal background check.

(continued...)

This is a selective admission program. Students must apply for entry into the program. The PHLB Tech Program Application and the Pre-Admission Medical History Form are available on line. Go to [www.ncmich.edu](http://www.ncmich.edu), Programs of Study. Under Certificates of Development, choose Phlebotomy-Program Code 178 to access forms and information.

### Prerequisites

**All prerequisite courses must be completed with a C+ (2.33 GPA or above)**

COM	170	Interpersonal Communication	3
OAS	116	Medical Terminology	3
AH	130	Body Systems and Diseases <b>or</b>	
BIO	133	Human Biology	3/4

### 9-10 Credit Hours

### Program Requirements

PHLB	101*	Phlebotomy I	4
PHLB	102	Phlebotomy II	2

\*must be completed with a C+ (2.33 GPA) to enter PHLB 102

### 7 Credit Hours

### Additional Requirements

OAS	101	Customer Service	1
OAS	190	Employability Skills	1
SD	107	Professional Development Skills	1
SOC	115	Anishinaabek Culture (required for WOCTEP students)	1

### (choose one course)

# Surgical Technologist

**Associate of Applied Science • Program Code: 258 • Credit Hours: 75 • Contact Hours: 132**

**Associate Dean: Peter Olson**

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients. Surgical technologists work under the supervision of a surgeon to facilitate the safe and effective conduct of invasive surgical procedures, ensuring that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety. Surgical technologists possess expertise in the theory and application of sterile and aseptic technique and combine the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

North Central's Surgical Technologist Program courses are offered over four semesters (excluding summer), beginning in the fall term of odd-numbered years, and ending at the close of the winter term one year later. The Surgical Technologist program, in full compliance with the Association of Surgical Technologist's (AST) Core Curriculum, offers students the chance to complete a Certificate or an Associate of Applied Science degree.

Since this program is very rigorous and demanding, students should consider carefully their outside work schedule given the requirements of the program, and especially in SRG 230 (Surgical Technologist IV - Externship, where students will be placed for 36 hours each week in a clinical setting). Students should also realize that they may be expected to travel as much as 40-100 miles one way for clinical observations and/or externships at regional hospitals so as not to overload a single clinical facility with too many students. Every effort will be made to assign students to clinical and externship sites fairly.

This is a selective admission program, which means that more students typically apply than the program can accept; students are ranked for admission based on the following criteria:

- Submission of completed Allied Health Program Application;
- Submission of assessment scores (either Compass or ACT Reading and Math scores);
- Completion of ENG 111;
- Completion of MATH 110 (or ACT Math score of 21 or higher or Compass Math score of 146 or higher);
- Completion of EMS 101 (or current American Heart Association Basic Life Support for Healthcare Providers or American Red Cross CPR for the Professional Rescuer; this certification must be maintained throughout the program);
- Overall grade point average;
- Grade point average and completion status of these prerequisite courses:
  - BIO 226 Microbiology (taken within 5 years of application deadline)
  - BIO 235 Anatomy and Physiology I (taken within 5 years of application deadline)
  - BIO 236 Anatomy and Physiology II (taken within 5 years of application deadline)
  - OAS 116 Medical Terminology
- Visit, volunteer, or work experience in healthcare (as documented on North Central's "Visit, Volunteer, Work Experience Statement," a part of the Allied Health Program Application form).

Students should complete the Allied Health Program Application form and return it with all necessary attachments by July 1 of the year they plan to enter the Surgical Technologist program in the fall. Students who are accepted into the program must enter the program in the fall following their application; students who are not admitted to the program, or who decide not to accept the offer of admission immediately, must re-apply; applications will not be kept on file, nor is there a waiting list for the program. Students may apply to the program while completing prerequisite courses, but all prerequisite courses, must be completed before beginning the program.

Students who are accepted into the program are further required to provide the following (described in more detail in the Allied Health Student Handbook):

- Current immunization information (students must also maintain current immunization status throughout the program),
- Background check authorization information (students should note that many types of criminal behavior may negatively affect program admission or completion due to requirements of clinical facilities where students may be placed; it is important that the student maintain a clean record for the duration of the program);
- Proof of current health insurance;
- Meet specific functional abilities with or without accommodations for successful completion of the program and to function safely and effectively in a variety of professional settings. Students who think they may not be able to meet the functional standards and need accommodation are encouraged to contact the Associate Dean of Health, Business and Technology or Learning Support Services.

Students completing North Central's Surgical Technologist program will be eligible to obtain voluntary professional certification from the National Board of Surgical Technology and Surgical Assisting (NBSTSA).

### **Surgical Technologist Program Prerequisites**

**23 Credit Hours**

**All prerequisite courses must be completed with a C+ (2.33 GPA or above)**

BIO	226	Microbiology	4
BIO	235	Anatomy/Physiology I	4
BIO	236	Anatomy/Physiology II	4
EMS	101	CPR/First Aid (or equivalent)	1
ENG	111	English Composition I	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4
OAS	116	Medical Terminology	3

### **Additional Requirements**

**9 Credit Hours**

**Select courses from the following list to satisfy the remaining 9 credit hours of program requirements:**

ENG	112	English Composition II	3
COM	170	Interpersonal Communication	3
PSY	161	Introduction to Psychology <b>or</b>	
SOC	171	Introduction to Sociology	3/3

### **Surgical Technologist Program Requirements**

**43 Credit Hours**

SRG	120	Surgical Technologist I	10
SRG	130	Surgical Technologist II	10
SRG	220	Surgical Technologist III	10
SRG	230	Surgical Technologist IV (Externship)	10
SRG	240	Operating Room Seminar	3

### **Suggested Sequence for Full-Time Students:**

#### **Fall (Odd Years)**

SRG 120 Surgical Technologist I

#### **Winter (Odd Years)**

SRG 230 Surgical Technologist IV (Externship)  
SRG 240 Operating Room Seminar

#### **Fall (Even Years)**

SRG 220 Surgical Technologist III

#### **Winter (Even Years)**

SRG 130 Surgical Technologist I

# Surgical Technologist

**Certificate • Program Code: 183 • Credit Hours: 66 • Contact Hours: 123**

Associate Dean: **Peter Olson**

Surgical technologists are allied health professionals, who are an integral part of the team of medical practitioners providing surgical care to patients. Surgical technologists work under the supervision of a surgeon to facilitate the safe and effective conduct of invasive surgical procedures, ensuring that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety. Surgical technologists possess expertise in the theory and application of sterile and aseptic technique and combine the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

North Central's Surgical Technologist Program courses are offered over four semesters (excluding summer), beginning in the fall term of odd-numbered years, and ending at the close of the winter term one year later. The Surgical Technologist program, in full compliance with the Association of Surgical Technologist's (AST) Core Curriculum, offers students the chance to complete a Certificate or an Associate of Applied Science degree.

Since this program is very rigorous and demanding, students should consider carefully their outside work schedule given the requirements of the program, especially in SRG 230 (Surgical Technologist IV- Externship, where students will be placed for 36 hours each week in a clinical setting). Students should also realize that they may be expected to travel as much as 40-100 miles one way for clinical observations and/or externships at regional hospitals so as not to overload a single clinical facility with too many students. Every effort will be made to assign students to clinical and externship sites fairly.

This is a selective admission program, which means that more students typically apply than the program can accept; students are ranked for admission based on the following criteria:

- Submission of completed Allied Health Program Application;
- Submission of assessment scores (either Compass or ACT Reading and Math scores);
- Completion of ENG 111;
- Completion of MATH 110 (or ACT Math score of 21 or higher or Compass Math score of 146 or higher);
- Completion of EMS 101 (or current American Heart Association Basic Life Support for Healthcare Providers or American Red Cross CPR for the Professional Rescuer; this certification must be maintained throughout the program);
- Overall grade point average;
- Grade point average and completion status of these prerequisite courses:
  - BIO 226 Microbiology (taken within 5 years of application deadline)
  - BIO 235 Anatomy and Physiology I (taken within 5 years of application deadline)
  - BIO 236 Anatomy and Physiology II (taken within 5 years of application deadline)
  - OAS 116 Medical Terminology
- Visit, volunteer, or work experience in healthcare (as documented on North Central's "Visit, Volunteer, Work Experience Statement," which is part of the Allied Health Program Application form).

Students should complete the Allied Health Program Application form and return it with all necessary attachments by July 1 of the year they plan to enter the Surgical Technologist program in the fall. Students who are accepted into the program must enter the program in the fall following their application; students who are not admitted to the program, or who decide not to accept the offer of admission immediately, must re-apply; applications will not be kept on file, nor is there a waiting list for the program. Students may apply to the program while completing pre-requisite courses, but all prerequisite courses, must be completed before beginning the program.

(continued...)

Students who are accepted into the program are further required to provide the following (described in more detail in the Allied Health Student Handbook):

- Current immunization information (students must also maintain current immunization status throughout the program),
- Background check authorization information (students should note that many types of criminal behavior may negatively affect program admission or completion due to requirements of clinical facilities where students may be placed; it is important that the student maintain a clean record for the duration of the program);
- Proof of current health insurance;
- Meet specific functional abilities with or without accommodations for successful completion of the program and to function safely and effectively in a variety of professional settings. Students who think they may not be able to meet the functional standards and need accommodation are encouraged to contact the Associate Dean of Health, Business and Technology or Learning Support Services.

Students completing North Central's Surgical Technologist program will be eligible to obtain voluntary professional certification from the National Board of Surgical Technology and Surgical Assisting (NBSTSA).

### **Surgical Technologist Program Prerequisites**

**23 Credit Hours**

**All prerequisite courses must be completed with a C+ (2.33 GPA or above)**

BIO	226	Microbiology	4
BIO	235	Anatomy/Physiology I	4
BIO	236	Anatomy/Physiology II	4
EMS	101	CPR/First Aid (or equivalent)	1
ENG	111	English Composition I	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4
OAS	116	Medical Terminology	3

### **Surgical Technologist Program Requirements**

**43 Credit Hours**

SRG	120	Surgical Technologist I	10
SRG	130	Surgical Technologist II	10
SRG	220	Surgical Technologist III	10
SRG	230	Surgical Technologist IV (Externship)	10
SRG	240	Operating Room Seminar	3

### **Suggested Sequence for Full-Time Students**

#### **Fall (Odd Years)**

SRG 120 Surgical Technologist I

#### **Fall (Even Years)**

SRG 220 Surgical Technologist III

#### **Winter (Even Years)**

SRG 130 Surgical Technologist II

#### **Winter (Odd Years)**

SRG 230 Surgical Technologist IV (Externship)

SRG 240 Operating Room Seminar

# Natural Sciences

# Viticulture and Enology

Associate of Applied Science • Program Code: 246 • Credit Hours: 62-63 • Contact hours: 65-66

Associate Dean: Peter Olson

The Viticulture and Enology degree program is designed to prepare individuals for various careers in the grape growing and wine making industry. Classroom instruction, online curriculum and field applications of viticulture and enology principles and practices are included in the program of study.

Course work includes aspects of plant science, vineyard stock selection and propagation, soils, vine nutrition, and pest management. Those interested in enology will receive training in the classroom and the field in the tools and techniques of wine making. Related courses in business, marketing, entrepreneurship and technology help produce a more well-rounded and employable graduate.

Graduates should qualify for positions in vineyards, wineries, and in related areas of sales and services.

VESTA courses, as shown below in Additional Requirements, refer to online courses offered by accredited colleges through a partnership between the Viticulture and Enology Science and Technology Alliance (VESTA) and Michigan State University. More information is available at [www.vestausa.org/main/](http://www.vestausa.org/main/).

## General Education Requirements

General Education Requirements			13 Credit Hours
ENG	111	English Composition I	3
ENG	112	English Composition II	3
COM	111	Speech <b>or</b>	
COM	170	Interpersonal Communication	3/3
MATH	100	Mathematical Reasoning	4

## Program Requirements

Program Requirements			28-29 Credit Hours
B	111	Accounting Procedures <b>or</b>	
B	211	Principles of Accounting I	3/4
B	161	Introduction to Business	3
BIO	101	Introduction to Biology	4
CEM	101	Introduction to Chemistry	4
CIS	100	Introduction to Computers	3
OAS	101	Customer Service	1
OAS	190	Employability Skills	1
VNW	110	Introduction to Viticulture	3
VNW	120	Introduction to Enology	2
VNW	285	Viticulture Internship I	2
VNW	290	Viticulture Internship II	2

## Additional Requirements (VESTA)

Additional Requirements (VESTA)			15 Credit Hours
VIN	148	Winery Sanitation	3
VIN	160	Winery Equipment Operation	2
VIN	211	Integrated Pest Management	2
VIN	213	Regional Vineyard Management	2
VIN	246	Intermediate Enology	3
VIN	268	Wine and Must Analysis	3

(continued...)



## Electives

(choose six credits)

CAP	135	Web Page Design	3
CAP	220	Production Art	3
ENT	125	Legal Issues for Entrepreneurs	1
ENT	140	Technology and Entrepreneurship	1
ENT	145	Advertising and the Entrepreneur	1
B	165	Small Business Essentials	3
M	204	E-Commerce, Retailing & Services	3
M	205	Principles of Selling	3

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

B	161	Introduction to Business
BIO	101	Introduction to Biology
CIS	100	Introduction to Computers
MATH	100	Mathematical Reasoning
VNW	110	Introduction to Viticulture

### Semester II (Winter)

B	111	Accounting Procedures <b>or</b>
B	211	Principles of Accounting I
CEM	101	Introduction to Chemistry
ENG	111	English Composition I
VIN	211	Integrated Pest Management
VNW	120	Introduction to Enology

### Semester III (Fall)

ENG	112	English Composition II
VIN	148	Winery Sanitation
VIN	160	Winery Equipment Operation
VIN	213	Regional Vineyard Management
VNW	285	Viticulture Internship I

### Semester IV (Winter)

COM	111	Speech <b>or</b>
COM	170	Interpersonal Communication
OAS	101	Customer Service
OAS	190	Employability Skills
VIN	246	Intermediate Enology
VIN	268	Wine and Must Analysis
Additional requirements		

### Semester V (Fall)

VNW	290	Viticulture Internship II
Additional requirements		

# Viticulture and Enology

**Certificate • Program Code: 146 • Credit Hours: 32 • Contact hours: 35**

Associate Dean: **Peter Olson**

The Viticulture and Enology certificate program will prepare students for entry level positions in the grape growing and wine making industry. Classroom instruction, online curriculum and field applications of viticulture and enology principles and practices are included in the program of study.

The program includes introductory courses in viticulture and enology in addition to several focused courses. Also included are general and applied business education courses. Graduates should qualify for positions in vineyards, wineries, and in related areas of sales and services.

Student completing this certificate will be well prepared to continue to NCMC's Associate of Applied Science degree in Viticulture and Enology.

VESTA courses, as shown below in Additional Requirements, refer to online courses offered by accredited colleges through a partnership between the Viticulture and Enology Science and Technology Alliance (VESTA) and Michigan State University. More information is available at [www.vestausa.org/main/](http://www.vestausa.org/main/). Students are reminded that no course with a grade less than a "C" (2.0) will transfer to NCMC.

## Program Requirements

Program Requirements			Credit Hours 32
BIO	101	Introduction to Biology	4
CEM	101	Introduction to Chemistry	4
CIS	100	Introduction to Computers	3
ENG	111	English Composition I	3
ENT	125	Legal Issues for Entrepreneurs	1
ENT	140	Technology and Entrepreneurship	1
ENT	145	Advertising and the Entrepreneur	1
MATH	100	Mathematical Reasoning	4
VIN	160	Winery Equipment Operation	2
VIN	213	Regional Vineyard Management	2
VNW	110	Introduction to Viticulture	3
VNW	120	Introduction to Enology	2
VNW	285	Viticulture Internship I	2

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

BIO	101	Introduction to Biology
CIS	100	Introduction to Computers
ENT	140	Technology and Entrepreneurship
ENT	145	Advertising and the Entrepreneur
MATH	100	Mathematical Reasoning

### Semester II (Winter)

CEM	101	Introduction to Chemistry
ENG	111	English Composition I
ENT	125	Legal Issues for Entrepreneurs
VIN	213	Regional Vineyard Management
VNW	120	Introduction to Enology

### Semester III (Fall)

VIN	160	Winery Equipment Operation
VNW	285	Viticulture Internship I
VNW	110	Introduction to Viticulture

# Grape Growing and Wine Making

Certificate of Development · Program Code: 147 · Credit Hours: 18 · Contact hours: 21

Associate Dean: Peter Olson

This program introduces students to the field of viticulture and enology and the basic science behind it. After completing this degree, a student may continue on to the Certificate of Associate of Applied Science programs, or seek entry-level employment in the field.

This program is also ideal for the “backyard vintner” who wishes to expand upon his or her knowledge to enhance enjoyment of a hobby or cottage business.

## Program Requirements

Program Requirements			Credit Hours 18
BIO	101	Introduction to Biology	4
CEM	101	Introduction to Chemistry	4
CIS	100	Introduction to Computers	3
VNW	110	Introduction to Viticulture	3
VNW	120	Introduction to Enology	2
VNW	285	Viticulture Internship	2

## Suggested Sequence for Full-Time Students:

### Semester I (Fall)

BIO	101	Introduction to Biology
CIS	100	Introduction to Computers
VNW	110	Introduction to Viticulture

### Semester II (Winter)

CEM	101	Introduction to Chemistry
VNW	120	Introduction to Enology
VNW	285	Viticulture Internship

# Landscape & Nursery or Applied Plant Science

Associate of Applied Science • Program Code: 247 • Credit Hours: 60 • Contact Hours: 62

Associate Dean: Peter Olson MSU Contact: Andrew Norman

In cooperation with Michigan State University

A cooperative, specialty Associate of Applied Science (AAS) degree between North Central Michigan College and the Institute of Agricultural Technology of Michigan State University (MSU). General education coursework is completed through North Central with technical skills coursework completed through the MSU Institute of Agricultural Technology. Technical skill options include either (1) Landscape and Nursery or (2) Applied Plant Science with concentrations in Commercial Horticulture Operations or in Commercial Turfgrass Operations. The MSU Institute of Agricultural Technology courses are offered on the campus of Northwestern Michigan College in Traverse City and lead to separate certification from MSU after a minimum of 48 credits of the required partnership coursework are earned in one of the MSU Certificate option areas. For detailed information about MSU's coursework and certification, contact L. Andrew Norman, Coordinator, MSU Northern Michigan Plant Science Program, at 231-929-3902, or [email: NORMANL@msu.edu](mailto:NORMANL@msu.edu)

## North Central Michigan College Courses

### Program Requirements

Program Requirements			23 Credit Hours
CEM	101*	Fundamentals of Chemistry	4
CIS	100 *	Introduction to Computers	3
COM	170	Interpersonal Communication	3
ECO	111 *	Macroeconomics <b>or</b>	
ECO	112	Microeconomics	3/3
ENG	111 *	English Composition I	3
ENG	112	English Composition II	3
MATH	110	Beginning and Intermediate Algebra (Part I)	4

## MSU and NMC Courses, taught in Traverse City at NMC

### Program Requirements

Program Requirements			19 Credit Hours
BIO	108 *	Plant Biology (NMC course)	4
CSS	210 *	Basic Soil Science (ITV)	3
ENT	110 *	Applied Entomology for Ornamentals and Turf	3
HRT	213*	Landscape Maintenance (ITV)	2
HRT	215 *	Landscape Industries Seminar	1
HRT	218 *	Landscape Irrigation (ITV)	3
PLP	200 *	Plant Diseases and their Pathology	3

\*required courses for MSU certification

## Suggested Sequence for Full-Time Students at North Central:

### Semester I (Fall)

COM	170	Interpersonal Communication
ENG	111	English Composition I
MATH	110	Beginning and Intermediate Algebra (Part I)
CIS	100	Introduction to Computers

### Semester II (Winter)

CEM	101	Fundamentals of Chemistry
ECO	111	Macroeconomics <b>or</b>
ECO	112	Microeconomics

Elective

(continued...)

## MSU Courses, taught in Traverse City at NMC \*

Choose one concentration (9-12 credits)

### Applied Plant Science- Commercial Horticulture Operations option Certificate

AT	293	Professional Internship in Agricultural Technology	3
HRT	208	Pruning and Training of Horticulture Systems	3
ESA	490	Land and Environmental Issues in Law	3

### Applied Plant Science- Commercial Turfgrass Operations option Certificate

AT	293	Professional Internship in Agricultural Technology	3
CSS	232	Introduction to Turfgrass Management (ITV)	3
ESA	490	Land & Environmental Issues in Law	3

### Landscape and Nursery MSU Certificate

AT	293	Professional Internship in Agricultural Technology	3
HRT	111	Landscape Planning & Design	3
HRT	211	Landscape Plants I	3
HRT	212	Landscape Plants II	3

### Additional Requirements

(choose 6-9 credits)

#### MSU Course Options

HRT	208	Pruning and Training of Horticulture Systems	3
HRT	214	Turf & Landscape Business Mgt (ITV)	2
AT	290	Independent Study in Ornamental Horticulture	1-4 (max 6 cr)
CSS	181	Fertilizer/Pesticide Application Tech	3
CSS	232	Introduction to Turfgrass Management (ITV)	3
ESA	490	Land & Environmental Issues in Law	3
HRT	111	Landscape Planning & Design	3
HRT	211	Landscape Plants I	3
HRT	214	Turf & Landscape Business Mgt (ITV)	3

#### North Central Course Options

B	161	Introduction to Business	3
B	165	Small Business Essentials	3
B	200	Principles of Management	3
B	201	Human Resource Management	3
B	211	Principles of Accounting I	4
CEM	102	Fundamentals of Bioorganic Chemistry	5
MATH	120	Intermediate Algebra	4
PSY	161	Introduction to Psychology	3

### Summary of Credits

#### AAS in Landscape & Nursery or Applied Plant Science

#### Credit Hours

NMC Program Requirements	23
MSU and NMC required courses	19
MSU Concentration courses	9-12
NMC and MSU electives	6-9
<b>NMC Degree Total</b>	<b>60</b>

# Associate of Applied Science Specialty Program

A certificate from a state-approved (licensed) post-secondary training institution, apprenticeship, or other career training program may be accepted by North Central Michigan College and applied as 20–30 hours toward a 60 credit hour associate of applied science degree. To be evaluated and approved by North Central, the certified post-secondary training must be recorded on a transcript indicating the clock hours and training objectives. The following items are required prior to beginning the degree coursework at North Central: 1) an evaluation of credits; and 2) development of an educational plan by a counselor or appropriate dean or director. For more information about the specialty program option, contact Student Services.

## Credits transferred in from certification 20-30

### General Education Requirements

ENG	111	English Composition I
ENG	112	English Composition II
COM	170	Interpersonal Communication
MATH	---	Competency
General Ed electives according to educational plan		

### 15 Credit Hours

3
3
3
3
3

### Specialty Area

**15-25**

(North Central courses chosen according to educational plan)

# Course Descriptions

## AH – Allied Health

**AH 107**                    **MEDICAL OFFICE PROCEDURES**                    **(F,W)**                    **3(2-2-0)**  
This course is designed to provide the theoretical basis and practical application for performing clinical procedures in the medical office/clinic setting. Included are introduction to medical assisting; patient assessment including taking a medical history, interviewing patients and vital signs; documentation of care; preparing patients for examinations and procedures; principles of asepsis; phlebotomy; interpersonal communications, and legal issues.  
PREREQUISITES: AH 130, OAS 116, Admission to the MA program

**AH 108**                    **MEDICAL OFFICE PROCEDURES II**                    **(F,W)**                    **2(1-2-0)**  
A continuation of AH 107. This course is designed to provide the theoretical basis and practical application for performing clinical procedures in the medical office/clinic setting. Included are specimen collection and laboratory procedures; diagnostic tests, x-rays, and procedures; introduction to principles of psychology; care of the geriatric and pediatric patient; developmental stages; common diseases and diagnoses; medical emergencies; professionalism; medical ethics; and accreditation of medical office assistants. AH 108 must be completed before taking AH 285.  
PREREQUISITES: AH 107, AH 180

**AH 116**                    **MATH FOR HEALTH PROFESSIONALS**                    **(Variable)**                    **2(2-0-0)**  
Designed for students majoring in nursing or allied health with an emphasis on math necessary for safe drug dosage calculation and medication administration. Topics will include solving problems and equations using fractions, decimals, percents, as well as using formulas and dimensional analysis. An overview of the metric system will also be provided. Emphasis will be placed on solving problems using drug calculations for medication administration.  
PREREQUISITE: Admission to the nursing program

**AH 130**                    **BODY SYSTEMS AND DISEASES**                    **(F,W)**                    **3(3-0-0)**  
An applied course designed for the medical assistant that provides an introduction to each body system and common diseases and conditions. Emphasizes core knowledge of anatomy as it relates to clinical practice. The student will examine knowledge related to fundamental concepts of diseases necessary to understand procedures and techniques commonly encountered in the clinical setting.

**AH 154**                    **CERTIFIED NURSE AIDE TRAINING**                    **(F,W,S)**                    **5(3-2-2)**  
Prepares students for work as a certified nurse's aide. Course includes academic instruction, hands-on practice in the laboratory setting, and clinical instruction in a long term care facility. Upon successful completion of the course, students are eligible to take the certified nurse aide examination in the state of Michigan. Students will be required to meet immunization standards of the clinical facilities and will be subject to a criminal background check prior to being able to participate in clinical instruction. Students should be advised that clinical instruction may take place outside of times allotted for normal classroom or lab time.

**AH 180**                    **PHARMACOLOGY FOR ALLIED HEALTH**                    **(F,W)**                    **3(3-0-0)**  
An applied pharmacology course designed for the Allied Health student. Emphasis is on safe, accurate administration of medications typically given in an allied health setting. The student will acquire knowledge of drug actions, major side effects, and techniques of administration.  
PREREQUISITES: B 104 or MATH 100 or MATH 110 or higher, AH 130 or BIO 133 or BIO 235

**AH 182**                    **PHARMACOLOGY FOR SURGICAL TECHNOLOGISTS**                    **(F,W)**                    **4(4-0-0)**  
An applied pharmacology course designed for the Surgical Technology student. Emphasis is on safe, accurate administration of medications typically given in a surgical setting. The student will acquire knowledge of drug actions, major side effects, and techniques of administration, in addition to specific additional instruction and practice in the relevant medications and procedures unique to the surgical setting.  
PREREQUISITES: MATH 110 or higher, BIO 226, BIO 235

<b>AH 240</b>	<b>PATHOPHYSIOLOGY</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
Pathophysiology is the study of abnormal function in living tissue. Physiological principles underlying the causes, signs, symptoms, and pattern of development of human disease will be examined. Recommended that BIO 235, BIO 236, CEM 101 be taken before AH 240.			
<b>AH 254</b>	<b>ADVANCED CNA SKILLS</b>	<b>(W)</b>	<b>4 (2-2-3)</b>
Advanced preparation for CNAs for the role of assistive personnel and the latest trends in health care. The course will cover crossover skills needed to work in varied healthcare settings such as acute, subacute, home health, hospices, and long-term care. Skills taught include venipuncture, respiratory care, wound care, electrocardiograms, catheterization and other technical skills.			
PREREQUISITE: AH 154 or current certification as CNA			
<b>AH 280</b>	<b>PHARMACOLOGY</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An introduction to the general principles of drugs and how they alter biological functions. Instruction focuses on the effects of specific drugs on body systems including: the autonomic nervous system; and the cardiovascular, respiratory, endocrine and immune systems. In addition, the pharmacology of antibiotics and chemotherapeutics is covered. Special emphasis is placed on the importance of the understanding of pharmacology with respect to nursing practice.			
PREREQUISITES: BIO 235, BIO 236, NUR 110			
<b>AH285</b>	<b>WORK BASED LEARNING – MEDICAL ASSISTANT I</b>	<b>(F,W,S)</b>	<b>3(0-0-1 2)</b>
Students in this course are placed in a medical office for a minimum of 160 hours of externship experience, where they will be working directly with a Medical Assistant or Registered Nurse to enhance administrative and clinical skills they have acquired in AH 107 and AH 108 (Medical Office Procedures I and II). Students will complete task lists for these skills that will be monitored both by medical office staff and North Central’s clinical instructor. Students will not be placed with their current employer. Students will typically meet with Allied Health faculty and staff near the end of AH 108 in preparation for their externship placements in the following term.			
PREREQUISITES: AH 107, AH 180 , OAS 190, and OAS 216 <b>or</b> AH 107, AH 108, AH 180, OAS 190 and OAS 220 and OAS 221			
<b>AH 297</b>	<b>SPECIAL TOPICS IN ALLIED HEALTH</b>	<b>(Variable)</b>	<b>2(2-0-0)</b>
Special topics classes provide students opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise. Topics will vary.			

## **ANP – Anthropology**

<b>ANP 110</b>	<b>CULTURAL ANTHROPOLOGY</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
This class is an introduction to the study of past and present cultural diversity throughout the world. Students learn major subfield methods, theories and issues and how to apply them to the study and understanding of human cultural variation. Topics covered during lecture, class discussion, and activities include the social, political, economic and religious systems of diverse societies.			
GENERAL EDUCATION DISTRIBUTION AREA: Social Science			
<b>ANP 130</b>	<b>INTRODUCTION TO PREHISTORIC ARCHEOLOGY</b>		<b>3(3-0-0)</b>
This course introduces the student to the theories, methods, and practices of prehistoric archaeology. This will be accomplished through the evaluation, analysis, and interpretation of archaeological data from sites around the world.			
<b>ANP 161</b>	<b>INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY</b>	<b>(W)</b>	<b>3(3-0-0)</b>
This introduction to biological anthropology examines the genetic, adaptive, primate, and evolutionary background to humankind’s emergence. Topics include human genetics, evolution, primate studies, human osteology, and human diversity. A basic understanding of biology is needed for success in this course.			
<b>ANP 210</b>	<b>ETHNOLOGY OF WORLD CULTURES</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An ethnographic survey of societies at different levels of socioeconomic development. Topics discussed include environment, politics, gender, economics, family and kinship, marriage and religion in hunting and gathering, horticultural, agrarian, industrial, and postindustrial societies. No prerequisite but ANP 110 is recommended.			



**ANP 295 FIELD STUDIES IN ANTHROPOLOGY (Variable) 3(3-0-0)**

This course offers students the opportunity to explore and analyze past and/or present human cultural diversity during an extended field experience. Students will be expected to participate in anthropological and/or archaeological fieldwork for the duration of the field experience. The destination, schedule of events, student responsibilities, and number of credits will vary and will be announced prior to class registration. Course fees will reflect trip expenses.

PREREQUISITE: Instructor's permission.

**ARB – Arabic**

**ARB 111 ELEMENTARY MODERN STANDARD ARABIC I (F,W) 5(5-0-0)**

The first of two-term sequence in elementary Arabic. It introduces the students to Modern Standard Arabic while learning about the aspects of Arab culture connected to daily life. This course focuses on the sounds and characters of the alphabet with basic writing of Modern Standard Arabic (MSA) combined with oral basic communication practice. Training in listening, speaking, reading and writing is given.

**ARB 112 ELEMENTARY MODERN STANDARD ARABIC II (F,W) 5(5-0-0)**

Enhances proficiency in Arabic and is a continuation of ARB 111. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. This course broadens student expression of perspectives and appreciation of Arabic culture.

PREREQUISITE: ARB 111

**ARC – Architecture**

**ARC 110 ELEMENTS OF ARCHITECTURE (F) 3(3-0-0)**

An introductory course in understanding the elements and meaning of architecture. The intent of the course is to provide a broad view of the factors and issues that translate need and purpose into architectural form. Students will become familiar with images of architecture drawn from various times and cultures. Projects and exercises will apply the knowledge and skills acquired in the class.

**ART – Art**

**ART 100 TWO-DIMENSIONAL DESIGN (F) 3(3-0-0)**

A basic introduction to the visual world. The student will develop a visual vocabulary and build an understanding of the elements and principles of design as they apply to work in two dimensions. Several mediums will be explored.

**ART 101 COLOR THEORY (F,W) 3(3-0-0)**

The purpose of this course is to help students gain a command of and a confidence in the use of color. Coursework explores color properties, color harmonies and systematic color relationships as they pertain to visual communication.

**ART 102 THREE-DIMENSIONAL DESIGN (W) 3(3-0-0)**

A foundation course that introduces students to the basic principles and elements of design as they apply to three-dimensional form and space. Students work with a variety of media in additive, subtractive and modular approaches to making forms in three dimensions.

**ART 103 ART APPRECIATION (Variable) 3(3-0-0)**

This course is designed for non-art majors wishing to understand the techniques, materials and criteria artists use in making art. Students will learn to look critically at a work of art, discuss the work and understand how it relates to works of art from the past.

**ART 105 ART HISTORY I (F) 3(3-0-0)**

An introduction to painting, sculpture and architecture from prehistoric to Medieval times. Art forms are examined both for individual qualities and for the way they exemplify changes in Western cultural patterns.

GENERAL EDUCATION DISTRIBUTION AREA: Humanities

<b>ART 106</b>	<b>ART HISTORY II</b>	<b>(W)</b>	<b>3 (3-0-0)</b>
A survey of the history of art including architecture, painting, sculpture, fine craft, performance art, video and digital art and the decorative arts from the 14 <sup>th</sup> century through the early 20 <sup>th</sup> century. Students will place the arts within the context of world geography, history, politics and religion to understand the relevance of art to contemporary life. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>ART 109</b>	<b>BASIC DRAWING &amp; COMPOSITION</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
An introduction to the techniques of drawing with various black and white media, including their use in the manipulation of the elements of composition in both representational and non-objective art.			
<b>ART 112</b>	<b>WATERCOLORS I</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A course introducing the techniques and approaches of watercolor painting. Pictorial and nonrepresentational compositions are explored, focusing on color, value and basic skills for successful watercolor renderings.			
<b>ART 114</b>	<b>OIL PAINTING</b>	<b>(F)</b>	<b>3(3-0-0)</b>
This is an introduction to the medium of oil paint. Students will explore a wide range of techniques, styles, color theory, and methods.			
<b>ART 115</b>	<b>HISTORY OF NON-WESTERN ART</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An introduction to painting, sculpture and architecture from prehistoric to contemporary times in the cultures of Asia, Africa and the Americas. The production of artwork and architecture is examined in an effort to explain their aesthetic qualities, as well as the stories they tell of the cultures and peoples that produced them. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>ART 116</b>	<b>THE HISTORY OF INTERIORS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
The study of the most successful and innovative uses of interior space through the ages.			
<b>ART 117</b>	<b>HISTORY OF MODERN ART</b>	<b>(W)</b>	<b>3(3-0-0)</b>
The study of Modern Art from Cubism through the 21 <sup>st</sup> century			
<b>ART 118</b>	<b>OIL PAINTING II</b>	<b>(W)</b>	<b>3(3-0-0)</b>
Presents the fundamental principles and techniques of painting. Integration of drawing and design concepts are emphasized. Students work exclusively with the medium of oil paint. PREREQUISITE: ART 114			
<b>ART 120</b>	<b>ARTS FOR EDUCATORS</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Designed to provide prospective educators the opportunity to explore the role of studio art in the classroom by developing and presenting art projects that engage students with artistic interpretation or relevant subjects such as science or history.			
<b>ART 125</b>	<b>ANISHNAABE ART</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An introduction to Anishnaabe art of the Great Lakes Region.			
<b>ART 130</b>	<b>INTRODUCTION TO JEWELRY</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Introduction to fine metals. Exploration of the design and creation of jewelry forms using traditional fabrication techniques. Processes include piercing, basic soldering techniques, bezel stone settings, and the use of tools and equipment.			
<b>ART 141</b>	<b>PASTEL LANDSCAPE PAINTING</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Following discussion of the basic tools and materials of pastel, the class will include step by step demonstrations of the traditional procedures used in pastel landscape painting. Students will apply these procedures by working outdoors, on site, except in inclement weather or when indoor demonstration is necessary.			
<b>ART 199</b>	<b>SURVEY OF GLASS TECHNIQUES</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A hands-on overview of basic glass forming techniques. Students will experience torch work, kiln work and glass blowing.			

<b>ART 201</b>	<b>PRINTMAKING</b>	<b>(S)</b>	<b>3(3-0-0)</b>
An introduction to some of the major printmaking techniques including relief, planographic and screen printing.			
<b>ART 202</b>	<b>INTRODUCTION TO FIBER AND TEXTILE DESIGN</b>	<b>(S)</b>	<b>3(3-0-0)</b>
An introduction to the concepts of design as they relate to fiber structures and fabric processes with a focus on aesthetic development through exposure to practices, tools, and materials.			
<b>ART 204</b>	<b>CERAMICS I</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
An introductory course to expose the student to the possibilities of clay work, with an emphasis on hand- building, and an introduction to throwing on the potter's wheel.			
<b>ART 205</b>	<b>CERAMICS II</b>	<b>(F, W)</b>	<b>3(3-0-0)</b>
A course which builds on the knowledge and skills acquired in Ceramics I, with an emphasis on developing throwing and hand-building skills, and more opportunity to explore different firing options. An introduction to glaze composition is also included. PREREQUISITE: ART 204 or equivalent.			
<b>ART 206</b>	<b>CERAMICS III</b>	<b>(F, W)</b>	<b>3(3-0-0)</b>
This course will facilitate the further development of the student's individual direction in clay work. Students will continue to develop processes and techniques, but with a focus on developing their own clay bodies, glazes and firing techniques. PREREQUISITE: ART 205 or equivalent.			
<b>ART 208</b>	<b>ADVANCED CERAMICS</b>	<b>(F, W)</b>	<b>3(3-0-0)</b>
This course will allow the student to pursue advanced, more independent work. There will also be an emphasis on learning all aspects of studio operation, including clay preparation, glaze mixing, and kiln loading and firing. PREREQUISITE: ART 206 or equivalent.			
<b>ART 209</b>	<b>ADVANCED HANDBUILDING</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Slabs, coils, slump molds, and other forming techniques will be combined with textures and surface design methods to create functional and sculptural work in clay. PREREQUISITE: ART 204			
<b>ART 212</b>	<b>LIFE DRAWING</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An introduction to drawing the figure in various media. Techniques of gesture, contour and proportions, along with their integration into coherent compositions, are included.			
<b>ART 213</b>	<b>TYPE AND IMAGE</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An exploration of the aesthetic relationship between type and image. Topics will include the development of the alphabet; the letterform as art; signs and symbols in ancient and modern societies; and ways in which images and text interact to create meaningful communication.			
<b>ART 215</b>	<b>ADVANCED PAINTING AND COMPOSITION</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A continuation of study from earlier painting and composition courses. Students advance in composition practice, analysis and painting technique and expand to still life, figure and landscape drawings.			
<b>ART 218</b>	<b>WATERCOLORS II</b>	<b>(W)</b>	<b>3(3-0-0)</b>
This advanced course allows the student to build on watercolor techniques and approaches as introduced in ART 112. The course continues with pictorial and non- representational compositions, color value and introduces advanced skills for successful water-color renderings. PREREQUISITE: ART 112 or permission of the instructor.			
<b>ART 219</b>	<b>WATERCOLORS III</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A continuation of ART 218, this course emphasizes advanced techniques as well as building on techniques and approaches discussed in PREREQUISITE: ART 218 or permission of the instructor.			

<b>ART 220</b>	<b>STAINED GLASS</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
An introduction to the art and craft of stained glass. In the studio, students acquire technical skills needed to design and execute medallions and panels of stained glass.			
<b>ART 221</b>	<b>ADVANCED STAINED GLASS</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
A continuation of ART 220 with greater emphasis on design and execution of larger objects.			
<b>ART 222</b>	<b>OIL PAINTING III</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Consolidates concepts and methods from Oil Painting I and II leading students to expand perceptual awareness. PREREQUISITE: ART 118			
<b>ART 223</b>	<b>OIL PAINTING IV</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An advanced studio experience, this course encourages students to explore a range of oil painting techniques while developing their own voice or style. This course will start with a structured series of projects but will eventually focus on the student's individual artistic direction. PREQUISITE: ART 222			
<b>ART 226</b>	<b>HOW WE FELT</b>	<b>(W)</b>	<b>1(1-0-0)</b>
Feltmaking methods for the fiber artist, including preparation of fiber, wet felting, needle felting and nuno felting. Students will experience stages of felting and the potential uses of each stage for artistic expression.			
<b>ART 227</b>	<b>INDIGO LOVES SHIBORI</b>	<b>(F)</b>	<b>1(1-0-0)</b>
Many forms of indigo dye will be studied, including extracting color from fresh leaves, pre-reduced and synthetic indigo on cellulose and protein fibers. Fabrics will be manipulated with stitched, clamped and tied resists.			
<b>ART 228</b>	<b>SOY WAX TO THE MAX</b>	<b>(W)</b>	<b>1(1-0-0)</b>
An in-depth study of soy wax as both resist and color-carrying substance. Course work will include dye methods for direct application, dye fixing and finished samples of the techniques.			
<b>ART 229</b>	<b>DECONSTRUCTED SCREEN PRINTING</b>	<b>(Variable)</b>	<b>1(1-0-0)</b>
An in-depth exploration of deconstructed screen printing. Students will embed textures in screens and use fiber reactive dyes to print on natural fibers.			
<b>ART 230</b>	<b>SURFACE DESIGN FOR TEXTILES</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An in-depth exploration of the methods used to print, paint, layer and dye to create images on fabric. Several classes of dye and types of fiber will be used, with a focus on developing personal imagery.			
<b>ART 231</b>	<b>INTRODUCTION TO WEAVING</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An introduction to several types of weaving methods, using very simple to highly technical looms. Materials, methods and finishing will be covered.			
<b>ART 232</b>	<b>ADVANCED WEAVING</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Continuing study into weave structures and methods. Emphasis placed on four harness weaving including tabby, twill, basket, double weave, and patterns. PREQUISITE: ART 231			
<b>ART 234</b>	<b>DYEING TO WEAVE</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An investigation of the role color and dye methods play in weave patterns and structures. Students will explore ikat, woven, shibori, space dyeing and painted warp techniques, then pair them with four harness weave structures and patterns to make cloth. PREREQUISITE: ART 231			
<b>ART 235</b>	<b>TEXTILE DYE INTENSIVE</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An in-depth exploration of the methods used to dye natural fibers. Dye systems including Procion MX, Acid and natural dyes will be investigated.			

<b>ART 236</b>	<b>TEXTILE NATURAL DYE INTENSIVE</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An in-depth exploration of the plants and insects used to dye natural fibers. Systematic dyeing with meticulous record keeping strategies will be stressed.			
<b>ART 238</b>	<b>DIGITAL IMAGING FOR TEXTILES</b>	<b>(W)</b>	<b>3(3-0-0)</b>
Develop textile surface designs including pattern, motif and color manipulation using digital imaging, use the process for printing directly onto fabric, and incorporate these images into fiber art. PREREQUISITE (S): ART 100 or ART 101 or ART 230			
<b>ART 240</b>	<b>JEWELRY II</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An opportunity for students with experience in basic metalsmithing and jewelry processes to focus on advanced techniques such as chasing & repousse, reticulation, cold joining, patterned metals, patinas, specialized stone settings, mechanisms and chains. An important aspect of this course will be the pursuit of individual design concepts and techniques of special interest to the student. PREREQUISITES: ART 130			
<b>ART 242</b>	<b>JEWELRY III</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An opportunity for students with experience in the basic jewelry and metalsmithing processes to create pieces focusing on advanced techniques and to develop a personal style. PREREQUISITE: ART 240			
<b>ART 244</b>	<b>JEWELRY IV</b>	<b>(W)</b>	<b>3(3-0-0)</b>
For students who have mastered all the basic jewelry and metalsmithing processes and advanced techniques taught in ART 240 and ART 242. This course will enable those advanced students to develop a specialization in a particular technique. Additionally, the course will be an opportunity to work within that technique, to develop a cohesive series of pieces in their personal style. PREREQUISITE: ART 242			
<b>ART 245</b>	<b>THE BUSINESS OF ART</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An overview of the business of being an artist, this class will introduce the student to portfolio and resume development, taxes and record keeping, copyright issues, discussing a business plan and the utilization of technology to sell and market artwork.			
<b>ART 252</b>	<b>SURVEY OF GLASS TECHNIQUES II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
In this hands-on overview of glass forming techniques students will further their experience with embossed, etched, slumped and fused glass, kiln cast, assembled, and cold worked glass.			
<b>ART 290</b>	<b>PORTFOLIO DEVELOPMENT</b>	<b>(W)</b>	<b>1(1-0-0)</b>
Learn to present your artwork in a professional manner in this capstone course. Whether seeking a job or applying to a 4-year college, you will create a polished representation of your body of work. PREREQUISITE: Permission of instructor			
<b>ART 295</b>	<b>FIELD STUDIES IN ART</b>	<b>(Variable)</b>	<b>4(4-0-0)</b>
A field class in which students will travel to various locations to study architecture, monuments, memorials, sculptures and museum collections. Time periods studied may range from ancient to contemporary. Descriptions of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses. PREREQUISITE: Permission of the instructor			
<b>ART 297</b>	<b>SPECIAL TOPICS IN ART</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.			
<b>ART 299</b>	<b>INDEPENDENT STUDY</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A course offering students the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements for approval and supervision with professor of their choice in the discipline the project will cover.			

## B – Business

- |  |  |                   |                 |
|--|--|-------------------|-----------------|
| <b>B 103</b>   | <b>BASIC BUSINESS METHODS</b>            | <b>(F)</b>        | <b>3(3-0-0)</b> |
| Provides a practical overview with applications of three key entry level business skills: business mathematical concepts, accounting/bookkeeping procedures and computerized accounting utilizing Quickbooks.  |  |                   |                 |
| <b>B 104</b>   | <b>BUSINESS MATH</b>                     | <b>(F,W,S)</b>    | <b>3(3-0-0)</b> |
| A review and practice course in fundamental arithmetical processes. Emphasis is on the use of fractions, decimals, weights and measures, payroll deductions, record keeping, banking services, notes and interest, insurance, metric, depreciation methods, stocks and bonds, mark-ups and other typical business calculations. Students will use electronic calculators for applications processes.   |  |                   |                 |
| <b>B 110</b>   | <b>BUSINESS COMMUNICATION ESSENTIALS</b> | <b>(F)</b>        | <b>3(3-0-0)</b> |
| Provides a basic introduction to oral and written communications as they are used in a business setting. Students will identify, analyze and practice effective methods of communicating information in the workplace as well as learn how to deal with barriers to proper communication. How to prioritize and choose between paper-based and electronic communication will also be covered.  |  |                   |                 |
| <b>B 111</b>   | <b>ACCOUNTING PROCEDURES</b>             | <b>(F)</b>        | <b>3(3-0-0)</b> |
| A beginning course in accounting for the non-accounting student. The theory and practice of modern double-entry accounting systems and procedures are highlighted, with special emphasis on developing an understanding of basic financial records and applying elementary accounting concepts to business situations.   |  |                   |                 |
| <b>B 113</b>   | <b>COMPUTER-ASSISTED ACCOUNTING</b>      | <b>(F,W)</b>      | <b>3(3-0-0)</b> |
| An introduction to computer-based accounting, using the latest versions of two of the most popular programs used in accounting today. QuickBooks Pro is one of the most popular general ledger software packages used by small and medium-sized businesses. The Peachtree accounting program provides the student with conceptual knowledge and the process knowledge necessary to build the problem-solving skills that he or she will need when using computerized accounting in the workplace.<br>PREREQUISITE: one college level accounting course.  |  |                   |                 |
| <b>B 152</b>   | <b>LEADERSHIP ESSENTIALS</b>             | <b>(Variable)</b> | <b>4(4-0-0)</b> |
| Designed for employees who are interested in furthering their communication and management skills to help them move into a supervisor/management position or for current supervisors/managers who would like to advance in their organization.   |  |                   |                 |
| <b>B 155</b>   | <b>PERSONAL FINANCE</b>                  | <b>(F,W,S)</b>    | <b>3(3-0-0)</b> |
| A course in making personal economic decisions: budgeting income; borrowing and buying on credit; choosing savings instruments, stocks, bonds, real estate and other investments; life insurance; annuities; buying or renting a house; and use of financial institutions.   |  |                   |                 |
| <b>B 161</b>   | <b>INTRODUCTION TO BUSINESS</b>          | <b>(F,W)</b>      | <b>3(3-0-0)</b> |
| An introductory course for business students that is also useful for those in other fields. The course objective is to take students with limited business backgrounds and introduce them to a variety of business topics by reading about and discussing current business activities and problems. Topics include capitalism, communism, socialism, forms of business organizations, the stock market, the bond market, banking, insurance, management, labor relations, accounting information and business ethics. Students will read, watch, discuss, and become involved with business topics and problems. |  |                   |                 |
| <b>B 165</b>   | <b>SMALL BUSINESS ESSENTIALS</b>         | <b>(W)</b>        | <b>3(3-0-0)</b> |
| For those who have an interest in beginning, purchasing or managing a small business. Major topics include the entrepreneurial personality, strategic and tactical planning, forms of ownership, whether to buy an existing business or start your own, financial management and planning, basic economics, marketing, supply chain management, human resource management, purchasing, inventory control, risk management, and globalization.  |  |                   |                 |

<b>B 200</b>	<b>PRINCIPLES OF MANAGEMENT</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
A comprehensive introduction to management theory and practice. The course begins with a brief look at the history of management thought, investigates the functions of management and covers such topics as quality strategic management, organizations and organizational cultures, decision making, operations management, social responsibility and business ethics, and international management. Consideration is also given to recent developments in management practice and styles of managerial leadership. Classes consist of lectures, discussions, case studies and group presentations.			
<b>B 201</b>	<b>HUMAN RESOURCE MANAGEMENT</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
A course that focuses on the effective use of people at work. Classes examine what can be done to make people more productive and satisfied within organizations. Topics include such activities as job analysis, employee planning, recruitment, selection and orientation, performance and evaluation, compensation and benefits, safety and health, labor relations, discipline and equal opportunity. Consideration is given to both union and non-union organizations. Human relations aspects are emphasized and many legal issues are examined. Classes consist of lectures, discussions, case studies, and group presentation.			
<b>B 207</b>	<b>BUSINESS COMMUNICATIONS</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
This course provides insight into real-life business situations and provides extensive coverage of communication theory, ethics, cultural diversity, teamwork, law, information technology, public speaking and the writing process. Coursework requires students to plan, research, and deliver oral presentations and compose business proposals, reports, letters and employment application materials. Students will benefit from acquiring strong communication skills, which are considered one of the most important indicators of success in today's business environment. PREREQUISITES: ENG 111 and either ENG 112 or the permission of the instructor.			
<b>B 211</b>	<b>PRINCIPLES OF ACCOUNTING I</b>	<b>(F,W,S)</b>	<b>4(4-0-0)</b>
An introduction to the study of accounting principles and theory covering financial statements and basic procedures in the accounting cycle; general and columnar journals, controlling accounts and subsidiary ledgers; work sheets; notes and interest; prepaid, unearned and accrued items; depreciation, vouchers, and payrolls			
<b>B 212</b>	<b>PRINCIPLES OF ACCOUNTING II</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
A continuation of the study of accounting principles. The course introduces accounting for the formation and operation of corporations; stocks and bonds; process and job order cost procedures; special reports, statements and analysis; and cash flow statements. PREREQUISITE: B 211			
<b>B 213</b>	<b>INTERMEDIATE ACCOUNTING I</b>	<b>(F)</b>	<b>4(4-0-0)</b>
A comprehensive study of the fundamental process of accounting, with special emphasis on inventories, investments, intangibles, plant and equipment, long-term liabilities, present and future values, and working capital items. PREREQUISITE: B 212			
<b>B 214</b>	<b>INTERMEDIATE ACCOUNTING II</b>	<b>(W)</b>	<b>4(4-0-0)</b>
A continuation of B 213, with additional study in accounting for corporate capital, stock, retained earnings, dividends, analysis, pensions, leases, and cash flow statements. PREREQUISITE: B 213			
<b>B 216</b>	<b>FEDERAL TAXATION ACCOUNTING</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A course in the concepts of federal income taxation, emphasizing individual taxpayers. Tax law covering taxable and excludable gross income, deductions, tax-free changes, capital gains and losses, tax credits and depreciation is presented. PREREQUISITE: B 211			
<b>B 218</b>	<b>COST ACCOUNTING I</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An intensive study of a cost accounting information system. Students learn how management's efforts to achieve organizational objectives rest upon the twin functions of planning and control. In-depth study of the planning function as a decision making process and the control function as a systematic effort by management to organize and marshal natural forces, human behavior and material objects into a coordinated unit in order to meet goals is also included. PREREQUISITE: B 212			







**BIO 265 ENVIRONMENTAL BIOLOGY (S) 3(3-0-0)**  
This is a course that deals with the interrelationships between organisms and their environment. Topics include ecology, natural resources, and environmental problems, both local and global. Discussion of current environmental problems is an important part of the class activities. Some field trips may be required.  
PREREQUISITE: BIO 101, BIO 151 or BIO 152 or permission of instructor

**BIO 295 FIELD STUDIES IN BIOLOGY I (Variable) 3(3-0-0)**  
This course offers students the opportunity to explore and analyze an ecosystem during an extended field experience. Students will be expected to participate in activities which may include hiking, camping, taking photographs and observing wildlife. The destination, schedule of events, student responsibilities and number of credits will vary and will be announced prior to class registration. Course fees will reflect trip expenses.  
PREREQUISITE: varies, check with instructor

**BIO 296 FIELD STUDIES IN BIOLOGY II (Variable) 3(3-0-0)**  
This course offers students the opportunity to explore and analyze a second ecosystem during an extended field experience. See course description for BIO 295.  
PREREQUISITE: BIO 295 and permission of instructor

**BIO 297 SPECIAL TOPICS IN BIOLOGY (Variable) 3(3-0-0)**  
Special Topics classes provide students opportunity for focused study with full-time or adjunct instructors teaching in their areas of expertise. Topics will vary.

**BIO 299 INDEPENDENT STUDY BIOLOGY (Variable) 3(3-0-0)**  
The independent study is designed for science majors who would like the opportunity to design and implement a project or study in the field of Biology. Students may enroll for up to three credits and are expected to document at least 16 hours of coursework for each credit. Students are supervised by the biology professor of their choice.  
PREREQUISITE: Satisfactory completion of at least two college biology courses and permission of the instructor.

## **CAP – Computer Applications**

**CAP 100 COMPUTERS FOR THE VERY BEGINNER (F,W) 1(1-0-0)**  
Computers can be intimidating for those new to their use. This course is designed as a very basic introduction to hardware and software. Students will become comfortable with the PC, begin to appreciate its capacity to make some tasks much easier and realize that computing can even be fun. No prerequisite.

**CAP 101 INTERNET SEARCHING & RESEARCHING (Variable) 1(1-0-0)**  
Students will learn to use basic Internet tools that will enhance their job performance as well as support lifelong learning and personal growth. The course includes guided practice in such areas as connecting to the Internet, managing E-mail, using search engines, accessing on-line databases, transferring files and being an informed and responsible Internet user.  
ADVISING NOTE: Students must be able to use the Windows environment, keyboard, and a mouse prior to enrolling in this course. This can be accomplished by taking CAP 100.

**CAP 102 WEB DESIGN FOR BEGINNERS (W) 1(1-0-0)**  
Provides basic training in web site design, set-up and editing. The course is geared to the introductory needs of the students, who will be encouraged to bring work-related and course –related material to class. At the conclusion of the course, students will have a basic understanding of web sites and will be able to design and implement their own.

**CAP 103 MACINTOSH COMPUTERS FOR THE BEGINNER (Variable) 1(1-0-0)**  
Computers can be intimidating for those new to their use. This course is designed as a very basic introduction to Macintosh hardware and software. Students will become comfortable with the Mac, begin to appreciate its capacity to make some tasks much easier and realize that computing can even be fun. No prerequisite.

<b>CAP 125</b>	<b>MICROSOFT EXCEL I (OFFICE 2003)</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
Course in Microsoft's spreadsheet program for the Windows environment. Students will build worksheets using formulas, functions, formatting and other basics. They will enhance these with 3-D charts, data tables, macros using BASIC, database filtering and sorting as well as object linking and embedding. <b>ADVISING NOTE:</b> Students must be able to use the Windows environment, keyboard and a mouse prior to enrolling in this course. This can be accomplished by taking CAP 100.			
<b>CAP 130</b>	<b>MS ACCESS</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A detailed look at Access, Microsoft's database program for the Windows environment. Students will create reports and forms. Sample topics include integrating Excel data, utilizing sub-forms, multi-table forms, macros and basic SQL. <b>ADVISING NOTE:</b> Students must be able to use the Windows environment, keyboard and a mouse prior to taking this course. This can be accomplished by enrolling in CAP 100.			
<b>CAP 135</b>	<b>WEB PAGE DESIGN</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
A course in web page design, layout and construction. Specific web page creation software is used to create and manage web sites, whether for personal or business use. Students will learn skills such as adding text, tables, video, Active X or JavaScript and other components to web pages.			
<b>CAP 140</b>	<b>INTRODUCTION TO ADOBE PHOTOSHOP</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
An introduction to computer graphics as an image making process for the manipulation of scanned (found) images. After a basic orientation to computer processing, Adobe Photoshop will be used for the development of images as formal fine art, illustration and as a visual communication tool.			
<b>CAP 145</b>	<b>INTRODUCTION TO ADOBE ILLUSTRATOR</b>	<b>(S)</b>	<b>3(3-0-0)</b>
An introduction to computer graphics through the creation and manipulation of vector (non-photographic) images. Adobe Illustrator will be used as the medium to allow students to import or create graphic images such as logos, artwork and advertisements. Students will learn how to incorporate rendered and imported images into finished work for presentation.			
<b>CAP 150</b>	<b>INTRODUCTION TO ADOBE INDESIGN</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An introduction to the creation, layout, and presentation of print and online computer graphics. Students will learn how to incorporate raster (photographic) and vector (non-photographic) images into a final presentation package through the use of Adobe InDesign.			
<b>CAP 160</b>	<b>INTRODUCTION TO DIGITAL AUDIO AND VIDEO</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
Introduces students to the essentials of editing video and audio with computers. Concepts are taught that may be applied to radio, POD casting, TV/video production, VOD casting, multimedia authoring, and/or Internet video streaming. Current hardware requirements/limitations and future technology developments will also be discussed. Demonstrated knowledge of basic computer skills is recommended to be successful in this course.			
<b>CAP 210</b>	<b>ADVANCED WEB PAGE DESIGN</b>	<b>(W)</b>	<b>3(3-0-0)</b>
Students will explore more advanced elements of web page design, including setting up multiple, advanced cascading style sheets and incorporating other media into web pages. The emphasis will be on developing dynamic, multi-level web pages that may include video, audio, animation and embedded scripting. Students will work with web design software to develop sites for personal or business uses. This course assumes proficiency with the computer environment and some previous work in web design. <b>PREREQUISITE:</b> CAP 135 or equivalent			
<b>CAP 215</b>	<b>ADVANCED DIGITAL AUDIO AND VIDEO</b>	<b>(W)</b>	<b>3(3-0-0)</b>
Builds on Introduction to Digital Audio and Video (CAP 160) and focuses on a more advanced level of production of audio and video. Will be taught using several different types of software as tools to accomplish the end product. Emphasis is placed on concepts, processes and techniques as opposed to specific software applications. Students will be able to, upon successful completion of this course, edit and assemble audio and video that will play on any computer or that will output to a variety of media, both physical and on the web. <b>PREREQUISITE:</b> CAP 160			

**CAP 220                    PRODUCTION ART WITH ADOBE CREATIVE SUITE                    (W)                    3(3-0-0)**  
An introduction to computer prepress operations (production art) using the latest Adobe Creative Suite. Adobe Photoshop, Illustrator and InDesign will be used for the development of finished products, such as brochures, business cards, posters or letterhead, ready for web or press. Introductory graphic design ideas and concepts will also be introduced. This course is ideal for students interested in working in the Graphic Design industry.  
PREREQUISITES: CAP 140 or CAP 145 or CAP 150 or comparable Adobe experience.

**CAP 297                    SPECIAL TOPICS IN COMPUTER APPLICATIONS (Variable)                    2(2-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

## **CEM – Chemistry**

**CEM 101                    FUNDAMENTALS OF CHEMISTRY                    (F,W,S)                    4(3-3-0)**  
A course for students with a limited or no chemistry background wishing to enter an allied health program or prepare for enrolling in Principles of Chemistry, CEM 121. Topics include states of matter, atomic structure, chemical bonding, stoichiometry, gas laws, solutions, equilibrium, acids and bases, and nuclear chemistry. Lecture and lab.  
PREREQUISITE: MATH 110  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 102                    FUNDAMENTALS OF BIOORGANIC CHEMISTRY                    (W)                    5(4-3-0)**  
An introductory organic and biochemistry class for students entering allied health fields or wishing to prepare for Organic Chemistry, CEM 231. Studies the nomenclature of organic compounds, organic functional groups and their reactivities; stereochemistry, major biomolecules and their metabolism, enzymes and chemistry of heredity. Lecture and Lab.  
PREREQUISITE: CEM 101 or equivalent  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 110                    CHEMISTRY OF CHOCOLATE                    3(3-0-0)**  
An examination of the principles of cacao bean harvesting and chocolate processing. It will then look at the chemistry and health issues of cocoa butter and the constituent fatty acids. The presence of antioxidants in chocolate will then be discussed. The next topic will be the chemistry and physiological effect of caffeine and related compounds in chocolate. Finally the class will examine the relationships, if any, between chocolate and obesity, dental health, headaches, exercise performance, and acne. There is no chemistry prerequisite. The underlying chemistry will be taught as it is needed. This course does not satisfy General Education requirements.

**CEM 121                    PRINCIPLES OF CHEMISTRY I                    (F)                    5(4-3-0)**  
This course deals with the principles of chemical properties, structure, and change. Consideration is given to atomic structure, chemical bonding, stoichiometry, thermochemistry, gas laws, atomic properties, periodic table, and states of matter. Lecture and Lab.  
PREREQUISITE: MATH 112 or MATH 120 or higher  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 122                    PRINCIPLES OF CHEMISTRY II                    (W)                    5(4-3-0)**  
A continuation of CEM 121. Topics including solutions, kinetics, equilibrium, thermodynamics, acids and bases, electrochemistry, qualitative inorganic analysis and nuclear chemistry are discussed. Lecture and Lab.  
PREREQUISITE: CEM 121  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 212                    QUANTITATIVE ANALYSIS                    (Variable)                    4(3-3-0)**  
Gravimetric, volumetric, spectroscopic, and electroanalytical methods of analysis.  
PREREQUISITE: CEM 122  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 231 ORGANIC CHEMISTRY I (F) 5(4-3-0)**  
This course deals with the structure, nomenclature, physical properties, preparations and reactions of alkanes, alkenes, alkynes, alcohols, and ethers. Structures and reactions are examined in the light of electron theory and energy relations. Lecture and Lab.  
PREQUISITE (S): CEM 122  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 232 ORGANIC CHEMISTRY II (W) 5(4-3-0)**  
A continuation of CEM 231. Topics include the structure, nomenclature, physical properties, preparation and reactions of aromatics, aldehydes, ketones, carboxylic acids, carboxylic acid derivatives and amines. Structures and reactions are examined in the light of electron theory and energy relations. Polymers and biomolecules are also introduced. Lecture and Lab.  
PREREQUISITE (S): CEM 231  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**CEM 297 SPECIAL TOPICS IN CHEMISTRY (Variable) 2(2-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

### **CIS – Computer Information Systems**

**CIS 100 INTRODUCTION TO COMPUTERS (F,W,S) 3(3-0-0)**  
The course is a general introduction to computers focusing on computer concepts and terminology and the components and functions of computer system hardware and software. Lab work includes introduction to operating systems, the spreadsheet, word processing and database.  
ADVISING NOTE: Students looking for a how-to-course in managing their own personal computers should take CAP 100 instead of this course.

**CIS 104 INTRODUCTION TO PROGRAMMING LOGIC (F,W) 3(3-0-0)**  
Provides the beginning programmer with a guide to developing structured program logic. The course assumes no programming experience and does not focus on any one particular language. It introduces programming concepts and enforces good style and logical thinking. Students will learn basic programming structure, flowcharts and documentation, and how to solve difficult structuring programs.

**CIS 105 VISUAL BASIC PROGRAMMING I (F,W) 3(2-2-0)**  
An introduction to programming in a Windows environment using MS Visual BASIC. Students will learn program development tools, object oriented programming techniques and will develop applications by creating objects, user interfaces and procedures. CIS 105 is recommended as a first programming language course for students with minimal programming experience. Students should be skilled in file management within Windows and use of Windows' accessories; if not, these skills should first be acquired in CIS 120  
PREREQUISITE: CIS 100

**CIS 115 C++ PROGRAMMING I (W) 3(2-2-0)**  
An introductory course in object-oriented design and programming using the C++ language. Sample topics include libraries, data types, expressions, arrays, conditionals and looping functions, custom date types, console and file I/O. (CIS 105 is recommended as a first programming language course for students with minimal programming experience. Students should be skilled in file management within Windows and use of Windows' accessories; if not these skills should first be acquired in CIS 100).

**CIS 120 INTRODUCTION TO PC OPERATING SYSTEMS (Variable) 3(2-2-0)**  
An introduction to common operating systems for the personal computer. The course introduces the basic Operating Systems functions necessary in both text-based and graphic environments for Operating Systems management. Windows command line is taught to address the security issue in operating systems. Students will learn command shell and write command lines to interact with file system, network and users, and processes and services.  
PREREQUISITE: CIS100

<b>CIS 125</b>	<b>PC HARDWARE</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>An introduction to computer hardware components, maintenance and upgrade operations a PC owner might perform. This course deals with components such as system boards, adapter cards, hard and floppy disk drives, monitors, memory modules and tape backup units. This course and CIS 120 will aid those seeking A+ certification.</p> <p>PREREQUISITE: CIS 100</p>			
<b>CIS 140</b>	<b>INTRODUCTION TO UNIX</b>	<b>(F)</b>	<b>3(2-2-0)</b>
<p>This is an in-depth course on the UNIX/Linux operating systems, which are widely used on the Internet and large corporate networks worldwide. Topics include learning the command syntax of the UNIX/Linux operating systems, text editing, file processing, and the file and directory structure of a UNIX/Linux-based computer. Shells, shell scripting, and Perl will also be taught.</p> <p>PREREQUISITE: CIS 100 or permission of the instructor</p>			
<b>CIS 145</b>	<b>ePORTAL DEVELOPMENT</b>	<b>(F)</b>	<b>3(2-2-0)</b>
<p>PHP, Apache, and MySQL are the three key open source technologies that form the basis for most active Web servers. The core component of this course is developing e-Commerce websites using the open source AMP (Apache, MYSQL, PHP/Perl) model. The coursework involves creating PHP Web pages, developing database application and security, and integrating PHP with e-commerce and other technologies. Web sites are developed with strong links to real world business applications. PREREQUISITE: CIS 105 or any other programming language</p>			
<b>CIS 150</b>	<b>INTRODUCTION TO DATABASE ADMINISTRATION</b>	<b>(F)</b>	<b>3(2-2-0)</b>
<p>Introduces the concept of and provides hands-on experience with database administration. Students will learn how to set up, administer, tune, troubleshoot, and secure a robust database system. In addition, this course also introduces fundamental database concepts and simple Structured Query Language (SQL) and exposes the students to database backup and recovery.</p> <p>PREREQUISITE: CIS 100</p>			
<b>CIS 205</b>	<b>C++ PROGRAMMING II</b>	<b>(F)</b>	<b>3(2-2-0)</b>
<p>Advanced C++ Programming, a continuation of CIS 115. Sample topics include arrays, dynamic data types, classes, pointers, and references, inheritance, linked lists, stream and file I/O, and Microsoft Foundation Classes. There will also be discussion on current topics related to C++, programming development, and the implications of .NET.</p> <p>PREREQUISITE: CIS 115 or equivalent</p>			
<b>CIS 215</b>	<b>DATABASE DESIGN AND MANAGEMENT</b>	<b>(W)</b>	<b>3(2-2-0)</b>
<p>Introduces the concepts of relational databases, logical database design, and database development. Students will learn about conceptual data modeling, relational data modeling, and normalization. Using Structured Query Language (SQL), students will gain hands-on experience in developing databases and manipulating data. Nested queries and PL/SQL (Procedural Language) will be introduced in this class.</p> <p>PREREQUISITE(S): CIS 100 and at least one of the following: CIS 104, CIS 105 or CIS 115</p>			
<b>CIS 220</b>	<b>VISUAL BASIC PROGRAMMING II</b>	<b>(F)</b>	<b>3(2-2-0)</b>
<p>Develops competency in business application programming using the Visual Basic language. Students will design and create solutions to common business problems using advanced Visual Basic tools to create a sophisticated user interface. Strong emphasis will be placed on object-oriented programming and programs that interact with files and relational database.</p> <p>PREREQUISITE: CIS 105</p>			
<b>CIS 225</b>	<b>INTRODUCTION TO JAVA PROGRAMMING I</b>	<b>(S)</b>	<b>3(2-2-0)</b>
<p>An introductory course in object oriented design and programming using the Java language. Sample topics include defining objects from business requirements, classes and objects, data types, operators, conditional logic constructs, looping constructs, arrays and collections, exception handling, file and other I/O, graphical user interface (GUI), event handling, applications and Web based applets and creating HTML documentation using the JavaDoc utility. This course covers 10 of the 13 objectives from the industry recognized Sun Microsystems Java Programmer Certification Exam.</p> <p>PREREQUISITE: CIS 100</p>			

**CIS 240**                    **LINUX/UNIX SYSTEM ADMINISTRATION**                    **(Variable)**                    **3(2-2-0)**  
 This is an in-depth course split into two parts: Part one covers SYSTEM administration of UNIX/Linux environments with topics that include: installation, system configuration, user management, printer administration, RCS, kernel management, security, system logging, disaster recovery, file system management, hardware management, application installation package management, process management, and troubleshooting. Part two covers NETWORK administration of UNIX/Linux environments with topics that include network hardware, TCP/IP protocol suite (TCP, IP, DNS, DHCP) setup and administration, network services (HTTP, FTP, SMTP, NFS) setup and administration, and network troubleshooting. Overview of iptables, tripwire, POP3, IMAP4, Xwindows, SMB, SSH, remote access, and environment documentation is also provided.  
 PREREQUISITE: CIS 140

**CIS 280**                    **INTERNSHIP/PROJECT**                    **(Variable)**                    **3(0-0-12)**  
 Students will develop an information system from its investigation phase through analysis, design, implementation, installation and review. Students will not be placed with their current employer. PREREQUISITE: Students must complete all CIS program requirements with at least a 2.75 G.P.A. and arrange scheduling of this course with the CIS advisor and the Work Based Learning Coordinator at least one semester prior to enrollment.

**CIS 297**                    **SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS**                    **3(2-2-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**CIS 299**                    **INDEPENDENT STUDY**                    **(Variable)**                    **3(3-0-0)**  
 A course offering students the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline the project will cover.  
 PREREQUISITE: Permission of the instructor.

**CJ – Criminal Justice**

**CJ 101**                    **CRIMINOLOGY**                    **(F,W)**                    **3(3-0-0)**  
 An introduction to deviant behavior and current criminological theories with emphasis on synthesis and police applications, crime prevention and the phenomena of crime. The course also includes an introduction to the social aspects of criminal law.

**CJ 102**                    **INTRODUCTION TO CRIMINAL JUSTICE**                    **(F,W)**                    **3(3-0-0)**  
 A survey of criminal justice institutions and functions including the system, the police, corrections, and the juvenile justice system. The roles and responsibilities of the general public and government officials are addressed, as well as the history, philosophy and methods of operations.

**CJ 120**                    **INTRODUCTION TO CORRECTIONS**                    **(F)**                    **3(3-0-0)**  
 A course for persons employed in or interested in a career in the broad field of correctional administration. This course will review the origin of corrections in America, current status, future outlook and some of the issues facing corrections administrators today. Emphasis is of the multi-faceted approach to corrections in contemporary society.

**CJ 130**                    **POLICE PROCESS**                    **(F)**                    **3(3-0-0)**  
 The role of law enforcement in the criminal justice system and society at large is explored. Emphasis is placed on the history and current practices of policing the demands and rewards of careers in law enforcement, and the dilemma inherent in policing a free society.

**CJ 195**                    **POLICE PRACTICUM/ INTERNSHIP**                    **(Variable)**                    **2(0-0-8)**  
 This course will provide Law Enforcement students with the practical experience of observing the daily activities of a police officer. This will insure that students will understand what law enforcement officers actually do. Recording the daily experiences will also assist the student in report writing. All students who enroll in this course must be a criminal justice student pursuing a career in law enforcement, must be in good physical health, not convicted of a felony, not involved in any civil matters, must submit to a background check and must be at least 18 years of age. Minimum GPA 2.0 Required.  
 PREREQUISITES: ENG 111, CJ 101, CJ 102, CJ 120, and CJ 130

**CJ 202**                    **CRIMINAL INVESTIGATION**                    **(W)**                    **3(3-0-0)**  
An introduction to criminal investigation procedures including theory of an investigation; conduct at crime scenes; collection and preservation of physical evidence; interviewing of witnesses and suspects; proper report writing, documentation and follow-through with court procedures. Students will learn of the resources available to properly conduct an investigation; internal (within a department) and external (computer data bases/intelligence units resources, crime laboratories and prosecutor's office).

**CJ 207**                    **CRIMINAL LAW**                    **(F)**                    **3(3-0-0)**  
The philosophy and sociology of criminal law, including history, development and ethical considerations in criminal legislation. Emphasis is placed on current criminal statutes and their interpretation in relation to specific crimes.

**CJ 210**                    **CURRENT ISSUES IN CRIMINAL JUSTICE**                    **(W)**                    **3(3-0-0)**  
A study of special problems, theories and developments in the criminal justice system. Specific case studies are explored.  
PREREQUISITES: CJ sequence

**CJ 217**                    **CRIMINAL PROCEDURES**                    **(W)**                    **3(3-0-0)**  
A study of the application of criminal law in our society today. Procedural aspects of defendant identification, defendant interrogation, and the law of search and seizure are included.

## **COM – Communications**

**COM 105**                    **MASS MEDIA**                    **(F)**                    **3(3-0-0)**  
Introduces students to mass media, particularly U.S. mass media. The course emphasizes the information-gathering and content dissemination activities of mass media for the understanding of how the media operates and how content decisions are made. The history, development and current structure of the media are covered. Those considering a career in news, public relations, advertising and entertainment will have a better understanding of the field and others will have a better understanding of the mass media they encounter daily.

**COM 111**                    **SPEECH**                    **(F,W,S)**                    **3(3-0-0)**  
A course in the basic principles of extemporaneous public speaking emphasizing the essential elements of researching and organizing material, analysis of argument and effective delivery.  
GENERAL EDUCATION REQUIREMENT FOR AA & AS DEGREE PROGRAMS: Communications

**COM 121**                    **ORAL INTERPRETATION**                    **(W)**                    **3(3-0-0)**  
This course is an introduction to the analysis, interpretation, rehearsal, and oral performance of literature. Students work with selections of prose, poetry, and drama written for adults and children.

**COM 130**                    **INTRODUCTION TO AMERICAN SIGN LANGUAGE**                    **(F,W)**                    **3(3-0-0)**  
An entry-level course designed to teach students basic sign language skills. The class begins with the manual alphabet, adding formal signs weekly in categories. Each class session students are given opportunities to develop their signing and interpreting skills through group activities. Discussion of deaf culture, causes of hearing impairment, and other related issues are ongoing throughout the semester. PREREQUISITE: Students must have the ability motorically to use one or both hands to form manual signs and the manual alphabet.

**COM 170**                    **INTERPERSONAL COMMUNICATION**                    **(F,W,S)**                    **3(3-0-0)**  
This course is designed to explore and develop an individual's communication skills within the context of interpersonal relationships, small groups and society as a whole. Over the course of the semester, a variety of educational approaches may be used including writing, speaking, collaborative and independent learning, role playing, independent research and written reports.

**COM 225**                    **NONVERBAL COMMUNICATION**                    **(F)**                    **3(3-0-0)**  
Focuses on history, types and functions of nonverbal communication, allowing students to gain a stronger awareness of their own and others' nonverbal behaviors and become more effective participants in the social interaction process.



**COM 235            COMMUNICATION, GENDER AND CULTURE            (F)            3(3-0-0)**  
 Focuses on the interactive and reciprocal relationship between gender and communication in contemporary American society. We will explore how communication shapes, reinforces, and resists definitions of gender and, simultaneously, how communication directly influences how we live gendered lives. You will learn the ways gender is communicated (how we come to know what it is to be a woman or a man), the multiple ways humans communicate within and across gender lines (how and why we express ourselves differently as men and women), and the role gender plays in friendship, family and romance. Gender issues relative to education, organizations, the mass media, and power and violence will also be explored

**COM 250            SMALL GROUP COMMUNICATIONS            (Variable)            3(3-0-0)**  
 A study of the theories, principles, and practices that govern small-group communication in business, government, and the wider community. The course will primarily deal with task-oriented small groups – groups with a specific objective to achieve, information to share, a problem to solve, or a decision to make. Topics include group formation, team building, group roles in decision-making, leadership, and conflict resolution. An introductory course in communications is recommended before taking this course.

**COM 295            FIELD STUDIES IN COMMUNICATION            (Variable)            5(5-0-0)**  
 Offers students opportunities to explore topics and activities in communication outside the traditional classroom/lab setting. Description of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses.  
 PREREQUISITE: Permission of the instructor.

**COM 297            SPECIAL TOPICS IN COMMUNICATIONS            (Variable)            3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**ECE – Early Childhood Education**

**ECE 200            FOUNDATIONS OF EARLY CHILDHOOD EDUCATION            (F,W,S)            3(3-0-0)**  
 Provides an overview of the early childhood education profession. Topics include historical and theoretical perspectives, types of programs and curricula, developmentally appropriate practices, use of assessment tools, quality standards in programs, guidance and management strategies, family involvement, public policy and inclusion laws, and the NAEYC Code of Ethical Conduct.  
**(formerly ECE 105)**

**ECE 205            CURRICULUM AND METHODS            (F,W,S)            3(3-0-0)**  
 Students will plan, implement, and evaluate developmentally appropriate curriculum and teacher practices designed to support the physical, social emotional, cognitive, language and aesthetic development of children. Topics covered include child centered learning, use of themes and interest areas, elements of an anti-bias curriculum, child management techniques, and informal and formal assessment tools and strategies.  
**(formerly EC E 110)**

**ECE 210            INFANTS AND TODDLERS            (F,W)            3(3-0-0)**  
 Students will begin to develop knowledge of the unique needs and developmental abilities of infants and toddlers and methods for providing opportunities for learning and growth through care-giving routines and play. Topics covered include physical, intellectual, social, emotional, aesthetic, and family dynamics in the first three years of life.

**ECE 215            CHILD GUIDANCE AND COMMUNICATION SKILLS            (F,W)            3(3-0-0)**  
 The study of the theoretical foundations of child guidance with skill building in the practical application of guidance techniques and strategies. Topics covered include family systems theory, individual and group management techniques from birth to age 8, non-verbal communication, issues of diversity, problem- solving and conflict resolution. Students will also examine and expand their repertoire of interpersonal communication dynamics.  
**(formerly ECE 130)**

**ECE 220 CHILDREN WITH SPECIAL NEEDS (F,W) 3(3-0-0)**  
An overview of the diverse learning needs of young children. Students will learn to differentiate between normal developmental patterns and children with special needs. Emphasis will be on identifying appropriate support services for assessment and diagnosis of developmental needs. Discussion will include strategies for early intervention, family support, and curriculum resources.

**ECE 225 ADMINISTRATION OF PROGRAMS (F,W,S) 3(3-0-0)**  
Students will study the basic principles of the financial, legal, supervisory, and administrative procedures used in early childhood centers. Topics to be covered in class include: policies, goal setting, safety, health and nutrition, requirements for licensing, budget and record keeping, program development, parent/school communication, personnel management and professionalism.  
**(formerly ECE 120)**

**ECE 282 PRACTICUM/SEMINAR (F,W) 7(3-0-12)**  
A capstone course in which the student integrates current early childhood issues and trends with classroom teacher practices. Students are expected to have a sound understanding of child development theory and practice and will spend 3 hours a week in a college seminar and 12 hours per week in a college approved early childhood setting serving infants and toddlers, preschoolers and/or school-age children (K-3). Students are expected to observe, participate, and work effectively with children from birth to age eight under the supervision of a qualified professional. Seminar emphasis is on discussion, application of skills in the classroom, and professional critique of the practicum experience.  
PREREQUISITES: Completion of or co-enrollment in all ECE courses

**ECE 299 INDEPENDENT STUDY - ECE (Variable) 3(3-0-0)**  
Independent Study is designed for students who have surpassed the normal scope of course offerings in a given discipline.

## **ECO – Economics**

**ECO 111 MACROECONOMICS (F,W,S) 3(3-0-0)**  
An introduction to basic macroeconomic concepts and theories and their application to current economic issues. Macroeconomics focuses on the aggregate behavior of households and firms in the economy. Major topics include supply, demand, and the market system; national income determinants; unemployment; inflation; international trade; and fiscal and monetary policy.  
GENERAL EDUCATION DISTRIBUTION AREA: Social Science

**ECO 112 MICROECONOMICS (F,W) 3(3-0-0)**  
An introduction to basic microeconomic concepts and theories and their application to current economic issues. Microeconomics focuses on the behavior and decisions of individual consumers and firms. Major topics include supply and demand, the impacts of public policy, elasticity, consumer choice theory, the costs and production of firms, and the decisions of firms in competitive and monopolistic markets.

## **ED – Education**

**ED 100 INTRODUCTION TO EDUCATION (W) 3(3-0-0)**  
ED 100 is designed for students who are thinking seriously about becoming teachers. This course is important for students transferring to four-year college programs that require supervised classroom experience for admission into the school of education. Students find their own supervising classroom teachers and spend 90 hours in public school observing, documenting their experiences and assisting in the classroom. In addition to the 90 hour commitment, students attend a weekly seminar, discuss, research and deliver presentations on relevant educational issues and develop a professional portfolio.  
PREREQUISITE: Sophomore standing.

**ED 299 INDEPENDENT STUDY – EDUCATION (Variable) 3(3-0-0)**  
Independent Study is designed for students who have surpassed the normal scope of course offerings in a given discipline.

## **EMS – Emergency Medical Services**

### **EMS 101                  CPR AND FIRST AID**

**(F,W,S)**

**1(1-0-0)**

Students practice adult, child and infant cardiopulmonary resuscitation as well as standard first aid. Students learn how to handle medical or trauma emergencies until professional help arrives or until the victim can seek help. Upon successful completion of this course, students are qualified to receive the appropriate certificate from either the American Red Cross (CPR for the Professional Rescuer and Standard First Aid) or the American Heart Association (Basic Life Support for Healthcare Providers and Heartsaver First Aid).

### **EMS 105                  MEDICAL FIRST RESPONDER**

**(Variable)**

**5(4-2-0)**

Prepares students to function in an emergency medical services within the scope and responsibilities of a Medical First Responder. Didactic instruction and hands-on skills lab practice are provided.

### **EMS 110                  EMT BASIC**

**(F,W,S)**

**9(7-2-3)**

Follows the outline prescribed by the National Registry and the State of Michigan to receive National Registry Certification as a Basic Emergency Medical Technician. The course involves classroom, hands-on instruction both in the College lab and clinical sites. Students may be expected to spend time beyond that indicated in the syllabus to achieve course objectives. Students must pass this course with a "C" or better to enroll in advanced paramedic courses.

PREREQUISITES: Valid driver's license, no felony convictions, completed physical examination, immunizations, and current health insurance prior to clinical.

STUDENTS MUST SUBMIT PROOF OF IMMUNITY, COMPLETED PHYSICAL EXAM, PROOF OF INSURANCE, AND SUBMIT WAIVER FOR A BACKGROUND CHECK TO THE NURSING AND ALLIED HEALTH DEPT. BEFORE THEY CAN TAKE PART IN ANY CLINICAL EXPERIENCES. Students must be 18 years of age at the time they sit for licensure.

### **EMS 120                  PARAMEDIC 1**

**(F)**

**6(4-2-4)**

Part of a composite program that is designed to prepare the student to function safely and effectively in the role of the EMS Paramedic Specialist in the emergency setting. This course introduces students to the preparatory information needed to work in the paramedic field. Material addressed in lecture will include basic A & P, EMS system operations, well-being of the paramedic, therapeutic communications, lifespan development, history taking, techniques of physical exam, assessment based management, medical-legal issues and ethical issues. Upon completion of this class the student will be qualified to sit for the Michigan State Board Exam at the Specialist level.

PREREQUISITES: EMS 110 with a C or above and the ability to sit for Michigan Basic EMT Licensure

### **EMS 130                  PARAMEDIC 2**

**(W)**

**9(6-4-4)**

A continuation of EMS 120 addressing venous access and medication administration, airway management, patient assessment, and introduction to cardiac and traumatic emergencies. Upon completion of this class the student will be qualified to sit for the National Registry Advanced EMT exam and, if successful, license in the State of Michigan at the EMT-Specialist level. Students will typically complete an Advanced Cardiac Life Support class (ACLS) during this semester.

PREREQUISITES: BIO 133 and EMS 120 with a "C" or above. Successful completion of EMT-Basic National Registry Exam.

### **EMS 220                  PARAMEDIC 3**

**(S)**

**10(7-4-4)**

A continuation of EMS 130 designed to prepare the student to pass the National Registry Examination for Paramedics. This course will cover all aspects of pre-hospital care to include medical emergencies and populations requiring special consideration. Structured clinical experiences in pre-hospital and hospital settings are included. Material covered in class includes: Cardiology, pulmonary, neurology, endocrinology, anaphylaxis, gastroenterology, renal/urology, toxicology, hematology, environmental conditions, behavioral psychiatric disorders, geriatrics, patient assessment and clinical decision-making, trauma and traumatic emergencies. Students will typically complete an advanced trauma skills class (PHTLS or ITLS) during this semester.

PREREQUISITE: EMS 130 with a "C" or above



<b>ENG 210</b>	<b>CREATIVE WRITING I</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A writing course for students who have sufficiently mastered the basic skills in ENG 111 and 112. Emphasis is on developing rhetorical proficiency through a variety of writing exercises, especially imaginative.			
PREREQUISITES: ENG 111 and 112			
<b>ENG 213</b>	<b>SHAKESPEARE I</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A study of selected works from comedies and tragedies in their Elizabethan and contemporary context. Plays will be read and discussed as dramatic literature, viewed in whole or in part on film, or seen on stage.			
PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 214</b>	<b>SHAKESPEARE II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A study of selected works from comedies and tragedies in their Elizabethan and contemporary context. Plays will be read and discussed as dramatic literature, viewed in whole or in part on film, or seen on stage.			
PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 215</b>	<b>INTRODUCTION TO POETRY</b>	<b>(F)</b>	<b>3(3-0-0)</b>
This introductory course is designed for students with little or no experience with poetry, but genuine curiosity about it. Students examine many aspects of poetry, both spoken and written, including the terminology necessary for discussing it and the historical and cultural contexts in which it is found.			
<b>ENG 217</b>	<b>ADVANCED WRITING</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Applies the rhetorical and critical methods of composition learned in English 112 to the study and production of the essay form. The course will focus on reading and writing traditional essays, contemporary popular essays, and academic essays.			
PREREQUISITE: ENG 112			
<b>ENG 220</b>	<b>CREATIVE WRITING II</b>		<b>3(3-0-0)</b>
A course designed to build on students' current fiction and non-fiction writing skills. Emphasis is placed on the development and refinement of students' works in fiction, features for periodicals and poetry. Manuscript submission procedures are examined.			
PREREQUISITE: ENG 210 or permission of the instructor.			
<b>ENG 221</b>	<b>BRITISH LITERATURE I</b>		<b>3(3-0-0)</b>
A survey of English literature with emphasis on major writers from Chaucer to Pope. PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 222</b>	<b>BRITISH LITERATURE II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A survey of British literature with emphasis on major writers from Blake to the present time. PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 231</b>	<b>AMERICAN LITERATURE I</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A survey of literary works that formed the basis for American literary art, from the Colonial Period to the Civil War.			
PREREQUISITE: ENG 112 or ENG 130			
GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>ENG 232</b>	<b>AMERICAN LITERATURE AFTER THE CIVIL WAR</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A survey of literary works produced from the Civil War to the present in America. The development of American themes and genre is examined as a reflection of an emerging American literary identity. PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 240</b>	<b>INTRODUCTION TO CHILDREN'S LITERATURE</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
Surveys literature for children in the elementary grades. Students explore the role of literature for children and engage in various issues/debates within the field. Developing perceptive criteria for evaluating children's literature will be a central component. Other topics include the history, central themes, and genres of children's literature.			
PREREQUISITE: ENG 112 or ENG 130			
<b>ENG241</b>	<b>WORLD LITERATURE, ANCIENT-1700</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
A survey of literary works of world cultures from approximately 600 BCE to 1700. Cultural influences and thematic evolution through various historical periods are examined.			

<b>ENG 242</b>	<b>WORLD LITERATURE, 1700-PRESENT</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A survey of literary works of world cultures from 1700 to the present. Cultural influences and thematic evolution through various historical periods are examined.			
<b>ENG 244</b>	<b>MULTICULTURAL LITERATURE</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An introduction to the literature of American minority cultures. Works by (but not limited to) Asian, African American, Native American, Hispanic, Jewish/Yiddish authors will be examined. Students learn the literary tools that aid in discovering and appreciating diverse themes within a contemporary context. PREREQUISITE: ENG 112 or ENG 130.			
<b>ENG 245</b>	<b>INTRODUCTION TO LINGUISTICS</b>		<b>3(3-0-0)</b>
Linguistics is the scientific study of language; it focuses on the descriptive rather than prescriptive approach to language. In this course, students will explore what language is and how is it represented in the mind. They will consider the following questions: How did languages originate? Is language unique to humans? Do we think differently depending on the language we speak? What role do parents and teachers play in language acquisition? Disciplines that will be covered include phonology, morphology, syntax, semantics, language acquisition, and pragmatics.			
<b>ENG 250</b>	<b>MYTHOLOGY</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
An examination of mythology with emphasis on Greek and Roman myths. Examines how myths derive from and influence the mind of a culture both socially and aesthetically. The myths are looked at as works of art in their own right and also as metaphors expressing a society's major values, themes and preoccupations.			
<b>ENG 251</b>	<b>CONTEMPORARY LITERATURE I</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An examination of contemporary fiction and non-fiction. This course provides students with the opportunity to examine contemporary themes and cultural perspectives through a variety of forms. PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 252</b>	<b>CONTEMPORARY LITERATURE II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An examination of contemporary fiction and non-fiction, covering different readings from those included in ENG 251. This course provides students with the opportunity to examine contemporary themes and cultural perspectives through a variety of forms. PREREQUISITE: ENG 112 or ENG 130			
<b>ENG 255</b>	<b>MODERN MYTHOLOGY: TOLKIEN &amp; LEWIS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An examination of a selection of works by two of the most popular fantasy writers of the 20 <sup>th</sup> century.			
<b>ENG 290</b>	<b>INTRODUCTION TO WRITING FOR FILM &amp; VIDEO</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An introduction to the basics of writing for narrative film and video with emphasis on writing for single camera production. Exercises will focus on proper formats, formation of ideas, story, character, and scene development, as well as structure, conflict, locale and theme. Discussion will include the aspects of available technology for screenwriters and available formatting software programs. PREREQUISITE: ENG 111			
<b>ENG 295</b>	<b>FIELD STUDIES IN ENGLISH</b>	<b>(Variable)</b>	<b>5(5-0-0)</b>
Offers students opportunities to explore topics and activities in English outside the traditional classroom/lab setting. Description of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses. PREREQUISITE: Permission of the instructor			
<b>ENG 299</b>	<b>INDEPENDENT STUDY ENGLISH</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An opportunity for students to conduct in depth studies in their fields of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline the project will cover.			

## ENGR - Engineering

### **ENGR 101 INTRODUCTION TO ENGINEERING (W) 3 (3-0-0)**

An introduction to the engineering profession and the engineering problem-solving method. Topics will include an overview of the main engineering disciplines, mathematical tools to solve engineering problems, quality control, data analysis, graphical representation and engineering economics. Also included will be a discussion of the four-year engineering programs at various colleges and universities. Students with an interest in pursuing engineering may wish to take this course as a first step in their career.

PREREQUISITE: MATH 112 or MATH 120 or higher

### **ENGR 107 ENGINEERING GRAPHICS (F) 3(3-0-0)**

An introductory course in the technical language of drafting, this course is designed for persons planning to enter an occupation where technical drawings are a primary means of communication. Topics covered include: sketching, pictorial and orthographic pro-projection, drawing techniques, types of views and drawings, title block, materials, change system, callouts, gears, serrations, dimensioning, geometric dimensioning and tolerancing, and an introduction to CAD.

### **ENGR 120 INTRODUCTION TO ALTERNATIVE ENERGY (F) 3(3-0-0)**

An introduction to alternative and renewable energy. The course will include a survey of past industrial energy practices as background to a review of non-traditional, alternative energy sources. Topics covered may include solar (active/passive and photovoltaic), wind, biomass, hydroelectric, fuel cells, wave and geothermal. Through a historical review and a look towards the future, students will gain knowledge and an appreciation for strengths and weaknesses of traditional and alternative energy sources.

PREREQUISITE: MATH 112 or MATH 120 or higher

## ENT – Entrepreneurship

### **ENT 110 ESSENTIALS OF ENTREPRENEURSHIP (F) 3(3-0-0)**

Provides future entrepreneurs with the tools, skills and knowledge they require to master the most important issues involved in starting and managing a successful new business venture. Major topics include the entrepreneurial profile, creative thought processes, strategic management, development of financial and business plans, financing and sources of funds, and building a competitive business.

### **ENT 120 FINANCING AN ENTREPRENEURIAL BUSINESS (F) 1(1-0-0)**

Examines financing methods and options for the entrepreneur. Topics include bank and private debt financing, equity financing, both public and private, venture capital opportunities and public and private grant opportunities. Students are encouraged to work on their own business plans and ideas in this course.

### **ENT 125 LEGAL ISSUES FOR ENTREPRENEURS (W,S) 1(1-0-0)**

Examines legal issues facing businesses, with an emphasis on small businesses and entrepreneurs. Topics include business formation, including types of business structure, labor law\*, tax law\*, product and personal liability, professional liability protection/coverage, business insurance and investor fraud and patent law. \* Students interested in more discussion of labor and tax law are advised to enroll in ENT 130 and/or ENT 135.

### **ENT 130 TAX LAW AND POLICY (W) 1(1-0-0)**

Examines tax law as it affects the entrepreneur. Topics will include personal and company tax liability stemming from different business structures, payroll and withholding policies and procedures, tax treatment of capital investments and expenses, current tax law and upcoming changes, estate and succession planning.

### **ENT 135 HUMAN RESOURCES ISSUE-ENTREPRENEURS (S) 1(1-0-0)**

Reviews human resource policy as it affects the entrepreneur. Topics will include labor contracts, at-will employment, interviewing techniques, Michigan and federal labor law and policy, performance evaluations and equal opportunity practices.

**ENT 140**            **TECHNOLOGY AND ENTREPRENEURSHIP**            **(F,S)**            **1(1-0-0)**  
An introduction to productivity technology and how it can work for the entrepreneur. Topics include brief introduction to information technology terminology and usage, uses and applications of technology in a business, the System Development Life Cycle and how it pertains to the entrepreneur and current and future trends in technology. This is not intended to be a hands-on course in computer usage; for that, the student is advised to enroll in a CIS or CAP course, or talk to an advisor.

**ENT 145**            **ADVERTISING AND THE ENTREPRENEUR**            **(W)**            **1(1-0-0)**  
An introduction to advertising methods and techniques for the entrepreneur, with an emphasis on cost effective ways to build awareness of a firm and its products and services. Topics include the four Ps (product, price, place, promotion), various advertising media and their advantages, basic copywriting and layout, dealing with the media and designing an effective advertising campaign.

**ENT 170**            **CREATIVE BLOCKBUSTING & PROBLEM SOLVING (Variable)**            **3(3-0-0)**  
An introduction to the creative process with an emphasis on developing practical, marketable ideas. Topics include conceptual blockbusting, thinking differently, examination through case studies of past new product and market developments, finding and harnessing creativity and channeling creativity into worthwhile business ventures.

## **ESC – Earth Science**

**ESC 101**            **INTRODUCTION TO EARTH SCIENCE**            **(F,W)**            **4(3-2-0)**  
An integrated study of the Earth that includes introductions to the disciplines of geology, oceanography, meteorology, and astronomy. The emphasis is on the scientific processes common to these disciplines. The course includes laboratory and field work. Lecture and Lab.  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**ESC 110**            **ENVIRONMENTAL GEOLOGY**            **(F,S)**            **4(3-2-0)**  
Exploration of the impact of geologic processes on the lives of humans and the effects of human activities on the Earth. Topics will include geologic hazards such as volcanoes, earthquakes, floods, and erosion, along with the environmental impacts of human activities such as mining, oil production, power generation, and waste disposal. In laboratory and field settings students will explore these topics with real world examples from the local area and around the globe.  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**ESC 121**            **PHYSICAL GEOLOGY**            **(F)**            **4(3-3-0)**  
An introductory course designed to develop an understanding of Earth materials and processes. Students will learn to identify and interpret rocks and minerals. We will explore the relationships between earthquakes, volcanoes, mountains, and plate tectonics. Through field trips and lab exercises we will witness the effects of processes that shape the Earth's surface: wind, waves, streams, and glaciers. Lecture and Lab.  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**ESC 122**            **THE EARTH THROUGH TIME**            **(W)**            **4(3-3-0)**  
An introduction to Earth history. Students will learn to interpret rock and fossil evidence. Topics include the origin and evolution of life, using fossils to organize the geologic time scale, determining past environments and environmental changes, and methods for determining ages of rocks and timing of geologic events.  
PREREQUISITE: ESC 101, ESC 110 or ESC 121  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**ESC 150**            **WEATHER AND CLIMATE**            **(W)**            **4(3-2-0)**  
An introduction to localized weather and regional climate and the study of how and why they vary over the surface of the Earth. The laboratory elaborates upon the basic physical processes that help to define weather, and includes the use of weather instruments and weather maps.  
PREREQUISITE: MATH 110  
GENERAL EDUCATION DISTRIBUTION AREA: Science



<b>ESC 201</b>	<b>FOUNDATIONS OF ASTRONOMY</b>	<b>(F)</b>	<b>4(3-2-0)</b>
An introductory course in astronomy for students who are interested in science. The course is a survey of the solar system, stars, and galaxies. Application of ideas and mathematical relationships is a fundamental part of this course. Lecture and Lab. PREREQUISITE: MATH 112 or MATH 120 or higher GENERAL EDUCATION DISTRIBUTION AREA: Science			
<b>ESC 210</b>	<b>REMOTE SENSING</b>	<b>(W)</b>	<b>3(2-2-0)</b>
Exploration of the techniques used to study the Earth's surface from a distance. Topics will include the collection, processing, quality assessment, and interpretation of aerial and satellite imagery. Students will gain hands-on experience interpreting imagery and data gathered via a range of radiation types and sensors. This tool will be applied to the study of erosion, vegetation cover, water issues, land usage, and regional planning. PREREQUISITE: GIS 110 GENERAL EDUCATION DISTRIBUTION AREA: Science			
<b>ESC 230</b>	<b>MINERALOGY AND PETROLOGY</b>	<b>(F)</b>	<b>5(3-4-0)</b>
Study of Earth materials. Students will learn to identify, interpret, and classify rocks and minerals. Special attention will be given to hand specimens and techniques used to identify them in laboratory and field settings. Students will also be exposed to optical (microscopic) and modern analytical techniques used to identify the chemistry and internal structure of minerals and rocks. The class is laboratory intensive. A knowledge of chemistry similar to those topics covered in CEM 101 is recommended. PREREQUISITE: ESC 101, or ESC 110, or ESC 121, or ESC 122 GENERAL EDUCATION DISTRIBUTION AREA: Science			
<b>ESC 295</b>	<b>FIELD INVESTIGATIONS IN GEOLOGY</b>	<b>(Variable)</b>	<b>1-5(variable)</b>
Exploration of the geologic setting of an area of Michigan and/or elsewhere in North America. Students will learn basic field techniques including: navigation, sampling, data cataloging, and field safety. Students will be expected to complete a final presentation of their observations, research techniques, and conclusions. Coursework will include classroom work as well as weekend field trips during the semester or weeklong trips outside of the fall/winter semesters. Students may have the opportunities to participate in a multi-year, regional research project and to present their results at a regional conference. Completion of ESC 230 is recommended, but not required. PREREQUISITE: ESC 101 or ESC 110 or ESC 121 or ESC 122			
<b>ESC 297</b>	<b>SPECIAL TOPICS IN EARTH SCIENCE</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.			
<b>FR – French</b>			
<b>FR 101</b>	<b>CONVERSATIONAL FRENCH</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
This course emphasizes speaking and listening proficiency through the acquisition of applied vocabulary and grammar to enable students to use French within and beyond the college setting. Language study and this course promote student expression of multicultural sensitivity. PREREQUISITE: One year high school French, FR 111 or equivalent			
<b>FR 109</b>	<b>TRAVEL FRENCH</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Promotes French language speaking; listening proficiency and cultural sensitivity within the context of various travel situations, such as: customs, airport, restaurant, hotel, store, market, and emergencies.			
<b>FR 111</b>	<b>ELEMENTARY FRENCH I</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enables students to begin acquiring proficiency in French through a communicative and cultural approach. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. Language study and this course promote student expression of cross-cultural perspectives. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			

<b>FR 112</b>	<b>ELEMENTARY FRENCH II</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enhances proficiency in French and is a continuation of FR 111. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. This course broadens students expression of perspectives and appreciation of French culture. PREREQUISITE: FR 111 GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>FR 211</b>	<b>INTERMEDIATE FRENCH I</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enhances proficiency in French through a communicative, cultural, and literature based approach. There is continued emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of French beyond the college setting. PREREQUISITE: FR 112 or two years of high school French or permission of the instructor. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>FR 212</b>	<b>INTERMEDIATE FRENCH II</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enhances proficiency in French through a communicative, cultural, and literature based approach. There is broadened emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of French beyond the college setting. PREREQUISITE: FR 211 or three years of high school French or permission of instructor GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>FR 297</b>	<b>SPECIAL TOPICS IN FRENCH</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.			
<b>FR 299</b>	<b>INDEPENDENT STUDY FRENCH</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A course offering students the opportunity to conduct in-depth studies in their field of interest. Students make arrangements for a project under the supervision of an instructor in the discipline.			

## **GEO – Geography**

<b>GEO 111</b>	<b>ENVIRONMENTAL GEOGRAPHY</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
A study of the physical environment and the relationship between human activities and environmental conditions. Topics include climate, earth materials and water bodies. Specific subjects of discussion are population growth, biodiversity, available food and water, and resource use.			
<b>GEO 121</b>	<b>WORLD GEOGRAPHY</b>	<b>(F,W,)</b>	<b>4(4-0-0)</b>
A study of the primary cultural regions of the world focusing on such physical factors as topography, climate and vegetation in combination with the human activities of each region. Cultural activities are related to the basic physical environment. GENERAL EDUCATION DISTRIBUTION AREA: Social Science			
<b>GEO 150</b>	<b>CARTOGRAPHY</b>	<b>(W)</b>	<b>3(2-2-0)</b>
An interactive study of maps. Topics will include the history of map making, the different models and projections used to represent the Earth, the variety of map types and their appropriate uses, and the techniques and conventions used in the design of map scales, labels and legends. In a lab setting students will learn to interpret different maps and create their own.			

## **GIS – Geographic Information Systems**

<b>GIS 110</b>	<b>INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS I</b>	<b>(F,W)</b>	<b>3(2-2-0)</b>
Introduction to the concept of Geographic Information Systems and their applications, including basic mapping concepts, coordinate systems, georeferencing spatial data, vector and raster data models, using on-line digital spatial data, creating and editing data and basic database management and spatial analysis. Introduction to various methods of data collection, including on-line, digitizing, and GPS. ArcGIS software will be used for practical exercises.			

- GIS 120 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS II (W) 3(2-2-0)**  
 A more detailed presentation of the theories and procedures introduced in GIS 1. Emphasis will be on advanced techniques in spatial analysis, database management, and data automation. Students will be exposed to a broad range of advanced techniques in ArcGIS and various extensions.  
 PREREQUISITE: Introduction to Geographic Information Systems I
- GIS 130 ADVANCED CONCEPTS IN GIS (F) 3(2-2-0)**  
 Advanced theoretical and technical issues in geographic information science utilizing a problems-oriented approach. This course will cover the development and implementation of geographic information science solutions and formal documentation of work.  
 PREREQUISITE: GIS 120
- GIS 150 GLOBAL POSITIONING SYSTEMS (S) 3(3-0-0)**  
 A study of the technology and uses of Global Positioning Systems (GPS). This course is intended as a foundation for students who will be working with GPS units or GPS data in their studies or employment. Topics covered will include the basic components of GPS, gathering positional data, assessing data quality, applications of GPS, and the future of GPS. Students will personally gather, process, and use GPS data using current technology and software applications.
- GIS285 WORK BASED LEARNING - GIS (Variable) 2(0-0-8)**  
 Students are placed in a business or industry setting directly related to their chosen career. Students will participate in the work environment at a preliminary level, which will depend on individual student ability and knowledge. Students are not responsible for goals of the organization. In addition to specific requirements related to that experience, students are required to complete written assessments and evaluation of the experience as it relates to their program.
- GR – German**
- GR 111 ELEMENTARY GERMAN I (Variable) 4(4-0-0)**  
 This course enables students to begin acquiring proficiency in German through a communicative and cultural approach. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. Language study and this course promote student expression of cross-cultural perspectives.
- GR 112 ELEMENTARY GERMAN II (Variable) 4 (4-0-0)**  
 This course enhances proficiency in German and is a continuation of GR 111. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. This course broadens student expression of perspectives and appreciation of German culture.  
 PREREQUISITE: GR 111 (may be replaced with 2 years of High School German after permission of instructor).
- GR 211 INTERMEDIATE GERMAN I (Variable) 4(4-0-0)**  
 This course enhances proficiency in German through a communicative, cultural, and literature based approach. There is continued emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of German beyond the college setting.  
 PREREQUISITE: GR 112
- GR 212 INTERMEDIATE GERMAN II (Variable) 4(4-0-0)**  
 This course enhances proficiency in German through a communicative, cultural and literature based approach. This is continued emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of German beyond the college setting.  
 PREREQUISITE: GR 211
- GR 297 SPECIAL TOPICS IN GERMAN (Variable) 3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.



<b>HST 221</b>	<b>CULTURAL HISTORY OF NATIVE AMERICAN II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A continuation of HST 220 focusing on American Indian language and cultural groups after the coming of the white man. Additional emphasis is on the cultural and economic status of present day Native Americans.			
<b>HST 222</b>	<b>WOODLANDS INDIANS, 1800-1 980</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A continuation of HST 220 and HST 221 focusing on the Native American populations of the Great Lakes region, including Michigan. General emphasis is on the cultural and social changes and conflicts that arose during the nineteenth and twentieth centuries. Additional emphasis is on the reorganizing, politically and socially, of the Native American community due to internal as well as external forces.			
<b>HST 231</b>	<b>SURVEY OF EARLY WESTERN CIVILIZATION</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A study of the social, economic and cultural development of Europe from prehistoric times to the beginning of the 16 <sup>th</sup> century. Special attention is given to the rise and fall of civilizations and their impact on modern development. PREREQUISITE: Minimum 71 COMPASS Reading score or minimum 17 ACT Reading score, or ENG 111			
<b>HST 232</b>	<b>SURVEY OF LATER WESTERN CIVILIZATION</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A continuation of HST 231 focusing on the development of Western civilization from the Renaissance to the end of the 19 <sup>th</sup> century. Special attention is given to colonial and national developments and their influence on modern times. PREREQUISITE: Minimum 71 COMPASS Reading score, or minimum 17 ACT Reading score, or ENG 111. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>HST 235</b>	<b>WORLD WAR II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A study of the United States' involvement in World War II. Topics covered include military strategies and battles, important individuals, diplomacy, industrialization, and societal ramifications.			
<b>HST 255</b>	<b>HISTORY OF ROCK AND ROLL ERA</b>	<b>(F)</b>	<b>3(3-0-0)</b>
Examines the historical origins and evolution of rock and roll music within the context of cultural, social, political, and economic history, elaborating on the pervasiveness and persuasiveness of rock and roll in modern society. Knowledge of US History or a college or high school history course, 1865 to present, is preferred.			
<b>HST 258</b>	<b>AMERICA IN THE SIXTIES</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A course on American in the 1960's and its impact on America today. The course is about War and Peace, Black and White, Women and Men, Poetry and Power and the monumental social and cultural explosions in dress, music, life-styles and sex. Specific areas of study will include the Kennedy Administration and his assassination, the struggle for racial and gender equality, the Vietnam War at home and abroad, and how these events are connected to the cultural movements that permeated the entire era.			
<b>HST 260</b>	<b>INNOVATION, INVENTION AND ENTREPRENEURSHIP</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Examines the history of entrepreneurship and innovation as an integral part of the American experience. The course will also look at how innovation happens, the origins of the critical idea, and the obstacles to innovation. In addition this course will discuss sustaining innovation in the 21st century.			
<b>HST 261</b>	<b>INTRODUCTION TO LATIN AMERICA</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A historical view of Latin America focusing on the cultural, political, and economic factors in Mexico, Central America, South America, and the Caribbean. The time frame will include Pre-Columbian inhabitants, European Colonization, as well as 19 <sup>th</sup> and 20 <sup>th</sup> century history.			
<b>HST 270</b>	<b>MICHIGAN HISTORY</b>	<b>(F)</b>	<b>3(3-0-0)</b>
A study of Michigan history from early beginnings (Native American cultures) to present day. A basic chronological approach is followed, with a topical study of specific elements including Native Americans, Michigan's role in the evolution of American history, the growth of cities in the region, and the economy of the state.			

**HST 295**                **FIELD STUDIES IN HISTORY**                                **(Variable)**                **3(3-0-0)**  
 History 295 will give students an opportunity to discover history outside the traditional classroom environment. Students will participate in field work involving visits to historic sites. The destination, schedule of events, student responsibilities, and number of credits will vary and will be announced prior to class registration. Course fees will reflect trip expenses.  
 PREREQUISITE: Permission of the instructor.

**HST 297**                **SPECIAL TOPICS IN HISTORY**                                **(Variable)**                **3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**HST 299**                **INDEPENDENT STUDY**                                **(Variable)**                **3(3-0-0)**  
 A course offering students the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline the project will cover.

## **HTM – Hospitality Management**

**HTM 121**                **INTRODUCTION TO HOSPITALITY INDUSTRY**                                **(Variable)**                **3(3-0-0)**  
 An overview of the hospitality industry including the operation and trends in restaurant/food service management, lodging management and travel/tourism. Introduction to destinations and the following components of travel/tourism: modes of travel, tour management, associations, agencies, marketing and sales, career preparation and opportunities and travel publications.

**HTM 130**                **FOOD AND BEVERAGE MANAGEMENT**                                **(Variable)**                **3(3-0-0)**  
 An introduction to food, beverage and labor cost controls for students preparing for careers in food and beverage management, as well as in hotels and other hospitality industry enterprises.  
 PREREQUISITE: HTM 121

**HTM 140**                **INTRODUCTION TO GAMING MANAGEMENT**                                **(Variable)**                **3(3-0-0)**  
 An introduction to the field of Gaming and Entertainment Management and Hospitality Services. This course is designed for introductory students with a career interest in these fields. Course topics include a survey of the gaming business in the world, with emphasis upon the U.S. gaming industry, as well as the relationships between gaming and the other hospitality segments. Practical application of the material is emphasized.

**HTM 232**                **HOSPITALITY LAW & ETHICS**                                **(Variable)**                **3(3-0-0)**  
 Covers basic legal principles governing hospitality operations such as the hotel-guest relationship, the hotel's duties to the guest and others, and laws relating to general hotel operation. The immigration reform law is discussed as an integral part of the course. Emphasis will be placed on current legislative and lobbying activities as well as to societal leverage in influencing and initiating legal and political activity and policy. The emerging dynamics of ethics will be discussed in relation to the entire industry.

**HTM 240**                **CASINO OPERATIONS AND MANAGEMENT I**                                **(Variable)**                **3(3-0-0)**  
 An intermediate course in gaming management, with a strong emphasis on the day to day operations of an ongoing casino. This course is intended for those students with previous course work and experience in gaming management and operations. Topics include customer service and retention, cash management, security, gaming probability, staffing and taxation. Practical application is emphasized as are real world examples from operating casinos.  
 PREREQUISITE: HTM 140

**HTM 245**                **CASINO OPERATIONS ANDMANAGEMENT II**                                **(Variable)**                **3(3-0-0)**  
 Provides instruction in gaming management, with a strong emphasis on the day-to-day operations of an ongoing casino. Intended for those students with previous course work and experience in gaming management and operations. Analysis of patterns of managerial and supervision participation in various forms of gambling.  
 PREREQUISITE: HTM 240

**HTM 250 CASINO RISK MANAGEMENT (Variable) 3(3-0-0)**  
Introduces students to the identification and analysis of all forms of risk in the casino world today. Includes an in-depth examination of the various methods used to protect table games. Provides a review of blackjack, baccarat, poker, craps, roulette, and slots and examines possible ways that cheating can occur. Methods of detection and various internal controls used by the casino will be discussed. PREREQUISITE: HTM 140

**HTM 285 WORK BASED LEARNING – HOSPITALITY (F,W,S) 2(0-0-8)**  
Students are placed in a business or industry setting that is directly related to their chosen career. Students will participate in the work environment at a preliminary level, which will depend on individual student ability and knowledge. Students are not responsible for goals of the organization. In addition to specific requirements related to that experience, students are required to complete written assessments and evaluation of the experience as it relates to their program. Prerequisites are determined by the curriculum in which the student is enrolled.

## **IT – Information Technologies**

**IT 101 NETWORK+ (Variable) 3(3-0-0)**  
Introduces computer networking through a combination of demonstrations, lectures, and hands-on labs. Prepares you to take the Network+ certification exam administered by the Computing Technology Industry Association (CompTIA). Explores some common networking technologies and introduces underlying concepts of data networking, such as the Open Systems Interconnection (OSI) reference model and the protocols that operate at the various model layers.

**IT 102 NETWORKING ESSENTIALS (Variable) 2(2-0-0)**  
Introduces the terminology and components used in small Cisco networks. TCP/IP will be used in static and dynamic networks. Binary and decimal representations of Internet addresses will be used to in a routed and switched system to divide networks into smaller subnets of various sizes. Cisco routers and switches will be used to conduct the lab exercises.

**IT 112 WINDOWS WORKSTATIONS (Variable) 2(2-0-0)**  
Introduces a variety of Windows Workstations through exploration, demonstrations, discussion, and hands-on lab exercises. Students will install, administer and troubleshoot the operating systems in a variety of network configurations and virtual environments. Students will use centralized served based systems to manage Windows components.

**IT 122 WINDOWS SERVERS (Variable) 2(2-0-0)**  
Introduces Windows Server operating systems through exploration, demonstrations, discussions, and hands-on lab exercises. A variety of network configurations including virtual environments will be used to configure and administer a variety of server operating systems. Using Active Directory Services, you will configure backups, Split Brain DNS, DHCP, and Windows domains. PREREQUISITE: IT 101,102 and 112

**IT 130 MICROSOFT WINDOWS 2000 NETWORK INFRASTRUCTURE (Variable) 2.5(2.5-0-0)**  
Using multiple subnets, students will configure and manage TCP/IP, Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP) and Active Directory. They will configure, manage, secure, and troubleshoot routing protocols in static and dynamic environments incorporating secure access to and from the Internet.  
PREREQUISITE: IT 122

**IT 131 WINDOWS WEB SERVER (Variable) 1.5(1.5-0-0)**  
Introduces installation, configuration, and management of Microsoft Windows Web services. Using Internet Information Services (IIS) on a Windows Web server behind a firewall, students will configure and manage a W3C Standards based website. Focus will be on standards and security. This course helps prepare students for one of the Microsoft Certified Professional examinations.  
PREREQUISITE: IT 102 or instructor permission

**IT 141 MANAGING WINDOWS NETWORKS (Variable) 4(4-0-0)**  
Implementing, managing, and troubleshooting existing Microsoft Windows networks. Focus will be on the skills generally required in medium to large size organizations spanning 2 to 100 physical locations via Large Area Networks (LANs) and the Internet or Intranets. Additionally, this course will help prepare students for the Microsoft Certified Systems Administrator (MCSA) Certification Examination.  
PREREQUISITE: IT 130 or instructor permission

<b>IT 150</b>	<b>WINDOWS 2000 DIRECTORY SERVICES</b>	<b>(Variable)</b>	<b>2.5 (2.5-0-0)</b>
<p>Introduces Microsoft Window's Active Directory system. Students will plan, configure, and administer an Active Directory Domain Infrastructure. They will configure the internal and external Domain Name system (DNS), manage name resolution, schema, and replication. Active Directory Services will be used to manage users, groups, shared folders, network resources, and to administer the Domain's resources with group policies.</p> <p>PREREQUISITE: IT 122</p>			
<b>IT 160</b>	<b>ADVANCED HARDWARE AND ROUTING</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>Through hands-on labs, students will learn to perform router and switch configurations on a LAN and WAN network. Additionally they will learn basic configuration procedures to build a multirouter, multigroup Internet-work that uses LAN and WAN interfaces for the most commonly used routing and routed protocols. This course will help prepare students for the Cisco CCNA Certification Examination.</p> <p>PREREQUISITES: IT 102 and CIS 125 or permission of the instructor</p>			
<b>IT 161</b>	<b>INTRODUCTORY DIGITAL LOGIC</b>	<b>(Variable)</b>	<b>2(2-0-0)</b>
<p>Introduces the binary and hexadecimal number systems. Binary logic will be used to conduct symbolic calculations in the TCP/IP environment. The lab manual assignments lead to a practical assignment used to develop and understanding of the logical activities necessary for network communications in a TCP/IP environment.</p> <p>PREREQUISITE: IT 101</p>			
<b>IT 170</b>	<b>CISCO NETWORK FUNDAMENTALS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>An introduction to fundamental networking concepts and technologies. Online course materials provided through the Cisco Academy will assist students in developing the skills necessary to plan and implement small networks across a range of applications. Classroom activities will be used to reinforce knowledge in each area. This is the 1<sup>st</sup> course of 3 preparing for the ICND1 section of the Cisco Certified Network Administrator (CCNA) Certification.</p>			
<b>IT 180</b>	<b>CISCO ROUTING PROTOCOLS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>The Cisco Certified Network Associate (CCNA) Exploration Routing Protocols and Concepts course will help students develop an understanding of how a router learns about remote networks and determines the best path to those networks. Both static routing and a variety of dynamic routing protocols will be used in hands-on experiments. Students will use simulators and hands-on experiments to solidify knowledge gained in online tutorials. This is the 2<sup>nd</sup> course of 3 preparing for the ICND1 section of the CCNA Certification.</p> <p>PREREQUISITE: IT 170</p>			
<b>IT 190</b>	<b>CISCO LAN SWITCHING &amp; WIRELESS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>The primary focus of this course is on LAN switching and wireless LANs. Students will develop an understanding of how a switch communicates with other switches and routers in a small- or medium-sized business network to implement VLAN segmentation. Students will also learn how to integrate wireless appliances into a LAN. This is the 3<sup>rd</sup> course of 3 preparing for the ICND1 section of the Cisco Certified Network Associate (CCNA) Certification.</p> <p>PREREQUISITE: IT 180</p>			
<b>IT 199</b>	<b>HELP DESK INTERNSHIP</b>	<b>(Variable)</b>	<b>4(0-0-16)</b>
<p>Provides the students with hands-on experience in a computer support environment. The student will perform end user support activities. All activities will be tracked with a typical help desk ticketing software. The routine activities required will range from hardware and wiring installations and software upgrades to virus removal and simple domain account activities like resetting passwords. The student will be expected to work approximately 16 hours per week and is required to take the Comp TIA A+ Certification exam. PREREQUISITE: Instructor permission</p>			
<b>IT 201</b>	<b>CISCO WIDE AREA NETWORKS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
<p>The Cisco Certified Network Associate (CCNA) Exploration Routing Protocols and Concepts course will help students develop an understanding of how a router learns about remote networks and determines the best path to those networks. Both static routing and a variety of dynamic routing protocols will be used in hands-on experiments. Students will use simulators and hands on experiments to solidify knowledge gained in online tutorials. This course will prepare students for the ICND2 section of the CCNA Certification.</p> <p>PREREQUISITE: IT 190</p>			



<b>IT 221</b>	<b>DESIGNING COMPUTER NETWORKS</b>	<b>(Variable)</b>	<b>6(6-0-0)</b>
Introduces designing network infrastructures, directory services, and security for a mixed operating system network. Learn how to analyze current business environments and create secure solutions for multiple purpose networks. To demonstrate ability, students will implement the pilot portion of their design in the lab. PREREQUISITE: IT 122, IT 130 and IT 150			
<b>IT 222</b>	<b>NETWORK SECURITY FUNDAMENTALS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Introduces the core security principles, confidentiality, integrity, and availability. The topics covered include different security layers, authentication, authorization, and accounting. Students will learn how to harden networks, servers and clients using policies, hardware and software. PREREQUISITE: IT 101 and 112			
<b>IT 270</b>	<b>CAPSTONE PROJECT</b>	<b>(Variable)</b>	<b>1-6(Variable)</b>
In this capstone course, students will design and implement a network that meets a given set of business needs. They will integrate the Internet with a private network and a subset of internal and external websites, email, routers and virtual private networking capabilities. During this course, students will provide networking services to a non-profit organization. PREREQUISITE: Permission of the instructor			
<b>IT 271</b>	<b>CERTIFICATION PREPARATION, MICROSOFT</b>	<b>(Variable)</b>	<b>2(2-0-0)</b>
Students desiring certification in any level of the Microsoft Certification Program will use lab equipment to implement practice test certification scenarios. Using a combination of hands-on lab exercises and practice exam scenarios, learners will prepare themselves for certification examinations. The first examination attempt will be paid for by class fees. PREREQUISITE: Instructor Permission			
<b>IT 272</b>	<b>CERTIFICATION PREPARATION, CISCO</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Students desiring certification in the Cisco Certification Program will use lab equipment to implement practice test certification scenarios. Using a combination of hands-on lab exercises and practice exam scenarios, learners will prepare themselves for certification examinations. The first examination attempt will be paid for by class fees. PREREQUISITE: Instructor Permission			
<b>IT 280</b>	<b>INTERNSHIP/PROJECT</b>	<b>(Variable)</b>	<b>1-6(Variable)</b>
In this capstone course students will be placed in an internship position with an employer in the computer networking or a related field. During their internship they will develop a portfolio of their education and experiences. PREREQUISITES: Instructor Permission			
<b>IT 297</b>	<b>SPECIAL TOPICS IN INFORMATION TECHNOLOGY</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise. PREREQUISITE: Permission of the instructor			
<b>IT 299</b>	<b>IT INDEPENDENT STUDY</b>	<b>(Variable)</b>	<b>1-6(Variable)</b>
This capstone course offers students the opportunity to conduct in-depth studies in their fields of interest. They will make arrangements to conduct a project under the supervision of an instructor of their choice in the discipline the project will cover. This course can be used to fulfill the requirements of other IT or CIS courses when arranged with the program coordinator and the objectives of that course are met. PREREQUISITE: Instructor Permission			

## **JRN – Journalism**

<b>JRN 102</b>	<b>MEDIA WRITING</b>	<b>(W)</b>	<b>3(3-0-0)</b>
Teaches the beginning multi-media journalist how to become a practicing journalist or writer. The course will introduce students to the multimedia newswriting process and concentrate on the development of writing techniques for print, broadcast and online in a writing lab environment. Contemporary issues, on and off campus, will be investigated and ideas influencing public affairs reporting will be analyzed.			

**JRN 201**      **NEWS WRITING II**      **(S)**      **3(3-0-0)**  
Second of two courses in news, designed to offer the beginning journalist or writer a practical training for entry-level jobs in the mass media or related fields such as public relations, government information and corporate communications. Course offers advanced writing experiences in feature, enterprise, opinion (editorial and column) reviews, on-line, broadcasting and public relations through classroom, writing lab and field work. No prerequisite required but basic news writing recommended prior to enrolling in JRN 201.

**JRN 220**      **NEWSPAPER PRODUCTION**      **(Variable)**      **3(3-0-0)**  
A hands-on course in producing North Central Michigan College’s student paper, The Informer. Emphasis is on interviewing, reporting, editing, layout and page design. This class will create and produce the Informer. No prerequisite is required, but successful completion of high school or college level journalism or writing courses is recommended.

**JRN 295**      **FIELD STUDY IN JOURNALISM**      **(Variable)**      **1-5(1-5-0)**  
Offers students opportunities to explore topics and activities in journalism outside the traditional classroom/lab setting. Description of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses. Prerequisite: Permission of the instructor.  
PREREQUISITE: Permission of the instructor

## **LA – Legal Assistant**

**LA 200**      **LAW OFFICE MANAGEMENT & LEGAL ETHICS**      **(F)**      **3(3-0-0)**  
Overview of legal assistant responsibilities, including the organization and management of a law office, timekeeping, public relations, and quality control. The code of Professional Responsibility and its Michigan counterpart are studied as they apply to legal assistants.

**LA 201**      **RESEARCH WRITING & ANALYSIS I**      **(F)**      **3(3-0-0)**  
An introduction to the Law Library and its use in the Law Office. Students begin to conduct research through all media including the Internet. Students will be able to prepare legal memoranda on all issues researched. Students enrolled in LA 201 must have strong writing and grammar skills. Students must have completed the equivalent of two semesters of English Composition prior to enrolling in this course.

**LA 202**      **RESEARCH, WRITING & ANALYSIS II**      **(W)**      **3(3-0-0)**  
This course develops skills the student acquired in LA 201 by teaching the student how to analyze, summarize, analogize and apply case law, statutory provisions and other authorities to factual scenarios. This course is designed to teach the student how to draft convincing legal briefs.

**LA 203**      **LITIGATION PREPARATION & PROCEDURE**      **(W)**      **3(3-0-0)**  
This course teaches students how to prepare for civil litigation, including the initial client interview, investigation, preparation of complaint, subpoenas, the discovery process, witness preparation, organization of file, etc. Students draft Interrogatories, Requests to Admit, and Request for Production of Documents, Notices of Taking Deposition, and various motions and responses to motions.

**LA 204**      **CIVIL PROCEDURE & RULES OF EVIDENCE**      **(F,S)**      **3(3-0-0)**  
This course studies the Michigan Rules of Court and Rules of Evidence along with their federal counterparts.

**LA 205**      **REAL ESTATE LAW**      **(F,W)**      **3(3-0-0)**  
This course introduces the student to real estate practice with emphasis on document preparation, statute of frauds, recording requirements, the Land Division Act, the Marketable Title Act, licenses, easements, encroachments and other various aspects of real estate law.

**LA 206**      **PROBATE LAW**      **(W)**      **3(3-0-0)**  
The student will be given an overview of probate law including document and form preparation, drafting wills, powers of attorney, patient advocate forms and trusts. The student will also learn the basics of probating an estate and the funding of trusts.

- LA 207**                 **FAMILY LAW**   **(W)**                 **3(3-0-0)**  
The student will survey the general practice of family law as it applies to both circuit and probate courts. The student will be able to prepare divorce complaints, complete verified statements, draft personal protection orders, and other relevant documents.
- LA 208**                 **TORT LAW**   **(W)**                 **3(3-0-0)**  
This course is an overview of Tort Law with special emphasis given to Michigan Law. Topics covered include Negligence, Malpractice, and Liability.
- LA 210**                 **INTERNSHIP PARALEGAL**   **(Variable)**                 **3(3-0-0)**  
This practicum shall be taken by the student during the last year of study. The student shall work as a legal assistant intern in a law-related office that is preapproved by the Legal Assistant Program Coordinator, to obtain practical experience in the legal field. Students registering for LA 210 must also see Work Base Learning Coordinator for advising. Minimum 2.0 GPA required. Students will not be placed with their current employer.

## **M – Marketing**

- M 200**                 **INTRODUCTION TO MARKETING**   **(F,W,S)**                 **3(3-0-0)**  
A course to familiarize students with the four weapons (the marketing mix) in the marketer’s arsenal: Product, Price, Promotion, and Place (Channels of Distribution), and help students learn how the product gets from the manufacturer to the ultimate consumer. The importance of strategic and tactical planning are covered in relation to the competitive, economic, social/cultural, political/legal, technological, and ecological environments in our global economy. The principle elements of this course are critical to the proper allocation of a firm’s limited resources and survival.
- M 202**                 **FUNDAMENTALS OF ADVERTISING**   **(W)**                 **3(3-0-0)**  
M 202 is an introductory course for those who plan to continue in the marketing sequence and those desiring a general knowledge of the field of advertising. This course provides a foundation for further study in advertising, gives an understanding of advertising as a business tool and as a socioeconomic force, and introduces students to the theory and techniques of marketing communication.
- M 204**                 **E-COMMERCE, RETAILING & SERVICE MANAGEMENT**   **(F)**                 **3(3-0-0)**  
Find out what it takes to develop and maintain a successful relationship between producer and ultimate consumer in the Internet age. Major topics include e-commerce models, e-commerce and retail information systems, location and web presence issues, strategic and tactical planning, consumer behavior, consumer and market research, customer service, financing, merchandise management, pricing, internal and external communication, public policy and internet regulation, and media infrastructure.
- M 205**                 **PRINCIPLES OF SELLING: RELATIONSHIP AND LEADERSHIP EDGE (F,W)**   **3(3-0-0)**  
Everyone sells every day.. ideas, opinions, choices, plans and products or services. This course will be of special interest to students if their work requires leadership and the ability to influence others; students will become more effective, persuasive, and efficient by applying the principles of selling. Major topics include verbal and non-verbal communication, the psychology of buying, the consumer decision process, the selling process, and time management.
- M 220**                 **MARKETING & MANAGEMENT STRATEGY**   **(W)**                 **3(3-0-0)**  
A case study-oriented application and expansion of the principles covered in Intro to Marketing (M 200) and Principles of Management (B 200). Students will be involved with topics related to the management of the marketing function: strategic and tactical planning, execution scenarios, and decision making regarding product, price, promotion, and channels of distribution. Team projects and individual performance are the focus of this course.  
PREREQUISITES: B 200 AND M 200 plus (9) additional hours of accounting, business, marketing, management, or economics.
- M 285**                 **WORK BASED LEARNING- MARKETING**   **(Variable)**                 **2(0-0-8)**  
Students in this course are placed in a business or industry setting that is directly related to their chosen career. Students will not be placed with their current employer. Students will participate in the work environment at a preliminary level, which will depend on individual student ability and knowledge. Students are not responsible for goals of the organization. In addition to specific requirements related to that experience, students are required to complete written assessments and evaluation of the experience as it relates to their program. Prerequisites are determined by the curriculum in which the student is enrolled.

**M299**                    **MARKETING, INDEPENDENT STUDY**                    **(Variable)**                    **3(3-0-0)**  
A course offering students the opportunity to conduct in-depth study and research in their specific field of interest. Students are responsible for making arrangements to do the project under the supervision of the professor of their choice in the discipline the project will cover.

## **MATH – Mathematics**

**NOTE:** North Central’s mathematics courses have been revised and renumbered effective with the Fall 2012 semester. The changes will match instruction more closely to student needs and provide a more logical numbering sequence. Starting in the fall, courses will have the alpha designator MATH instead of MTH.

A new course, Pre-Algebra (MATH 090), will get students ready for collegiate level mathematics. Mathematical Reasoning (MATH 100) will introduce students to the spirit of mathematics and help them become skilled math users and consumers. Beginning-Intermediate Algebra I and II (MATH 110 and 112) will allow more time for in-depth coverage of math topics and prepare students for most transfer programs. Intermediate Algebra (MATH 120) will serve students who have a sufficient algebra background and need intermediate algebra to meet their program needs. All other courses will remain the same, but with new numbers.

Go to the college website [www.ncmich.edu](http://www.ncmich.edu) for a renumbering guide. See an advisor for assistance in determining which courses to take.

There will be no negative impact on students who have taken courses with the MTH designator.

**MATH 090**                    **PRE-ALGEBRA**                    **(F,W)**                    **4(4-0-0)**  
This course is designed for students who need to develop algebraic skills before taking Beginning/Intermediate Algebra (MATH 110) or Mathematical Reasoning (MATH 100). Topics covered include integers, simplifying variable expressions, solving linear equations, fractions, applications involving proportions and percents, and an introduction to graphing. Additional topics may be assigned by the instructor as deemed necessary for student success. Students will work independently on content until mastery is attained. This course is offered on a pass-fail progress status and does not count toward graduation and will not transfer.

PREREQUISITE: COMPASS Reading score of 62 or above, ACT Reading score of 13 or above

**MATH 100**                    **MATHEMATICAL REASONING**                    **4(4-0-0)**  
This is a survey course of mathematical ideas and mathematical systems. The course is designed to introduce the student to the spirit of mathematics and turn them into skilled math users and consumers. Core topics include arithmetic reasoning, problem solving, mathematical modeling, management science, mathematics of finance, logic, geometry and statistics. This course is designed to serve as a terminal course for students who choose to pursue an academic career not requiring higher mathematics or statistics.  
PREREQUISITE: MATH 090 with a grade of “C” or higher or COMPASS. Mathematics score of 43 or ACT Math score of 17.

**MATH 110**                    **BEGINNING AND INTERMEDIATE ALGEBRA (PART I)**                    **(F,W)**                    **4(4-0-0)**  
This is the first of two courses designed for the student placing into Beginning Algebra and needing Intermediate Algebra. The material covered includes operations with real numbers, solving linear equations and systems of equations, problem solving, graphing, exponents, and factoring. Students passing this course with a grade of C or better will enroll in Beginning and Intermediate Algebra (Part II). *Students passing Beginning and Intermediate Algebra (Parts I and II) will receive the following credit distribution: MATH 120 (4 credits) and Math Elective (4 credits). Students passing Beginning and Intermediate Algebra (Part I) but not passing Beginning and Intermediate Algebra (Part II) will receive four Math Elective credits.*  
PREREQUISITE: MATH 090 with a grade of “C” or higher or COMPASS Math Score of 43-145 or ACT Math score of 17-20.

**MATH 112            BEGINNING AND INTERMEDIATE ALGEBRA (PART II)            (F,W)            4(4-0-0)**

This is the second of two courses designed for the student placing into Beginning Algebra and needing Intermediate Algebra. The material covered includes rational expressions and equations, functions, quadratic equations, radicals and radical equations, absolute value equations and inequalities, and exponential and logarithmic equations, *Students passing Beginning and Intermediate Algebra (Parts I and II) will receive the following credit distribution: MATH 120 (4 credits) and Math Elective (4 credits). Students passing Beginning and Intermediate Algebra (Part I) but not passing Beginning and Intermediate Algebra (Part II) will receive four Math Elective credits.*

PREREQUISITE: MATH 110 with a grade of "C" or higher.

GENERAL EDUCATION REQUIREMENT FOR AA DEGREE PROGRAMS: Mathematics

**MATH 120            INTERMEDIATE ALGEBRA            (F,W,S)            4(4-0-0)**

A review of properties of real numbers; first degree equations and inequalities; polynomials and exponents; rational expressions; rational exponents and radicals; linear equations and inequalities; quadratic equations and inequalities; systems of equations and inequalities; exponential and logarithmic functions. Emphasis will be on utilizing these skills in problem solving situations.

PREREQUISITE: COMPASS Mathematics score of 146 or ACT Math score of 21.

GENERAL EDUCATION REQUIREMENT FOR AA DEGREE PROGRAMS: Mathematics **(formerly MTH 113)**

**MATH 125            MATHEMATICS FOR ELEMENTARY TEACHERS I            (F)            3(3-0-0)**

The first of a sequence of two courses designed for students majoring in elementary teaching. Topics include problem solving, sets, numeration systems, fractions, decimals, and the development of our number system from the set of natural numbers through the set of real numbers. Emphasis is placed on the use of physical representations (manipulatives) for teaching mathematics.

PREREQUISITE(S): MATH 110 (or equivalent) with a grade of "C" or higher or COMPASS mathematics score of 146 or higher, ACT mathematics score of at least 21.

**(formerly MTH 101)**

**MATH 126            MATHEMATICS FOR ELEMENTARY TEACHERS II            (W)            3(3-0-0)**

The second of a sequence of two courses designed for students majoring in elementary teaching. Topics include probability, statistics and data analysis, geometry (concepts and measurement, constructions and transformations). Emphasis is placed on the use of physical representations (manipulatives) for teaching mathematics.

PREREQUISITE: MATH 125 (or equivalent) with a grade of "C" or higher.

**(formerly MTH 102)**

**MATH 130            COLLEGE ALGEBRA            (F,W)            4(4-0-0)**

A review of the fundamental concepts of algebra with applications. Topics include linear and quadratic equations and inequalities; functions and graphs; zeros of polynomial and rational functions; exponential and logarithmic functions; systems of equations and inequalities; matrices and determinants; probability and counting arguments. Use of graphing calculators and current technology will be emphasized.

PREREQUISITE: MATH 112 with a grade of "C" or higher or COMPASS algebra score of 71 or higher, ACT mathematics score of at least 23

GENERAL EDUCATION REQUIREMENT FOR AS DEGREE PROGRAMS: Mathematics **(formerly MTH 119)**

**MATH 140            TRIGONOMETRY            (W)            4(4-0-0)**

A review of geometry and algebra concepts necessary for trigonometry and prepare for further study in calculus. Trigonometric functions will be examined using the right triangle and unit circle concept. Graphs of trigonometric functions and their inverses; trigonometric identities and equations; and applications of trigonometry will be studied. In addition the course will include the study of vectors and their applications; polar coordinates and graphs of polar equations with applications; and parametric equations and their applications. Use of graphing calculators and current technology will be emphasized.

PREREQUISITE: MATH 130 with a grade of "C" or higher or COMPASS college algebra score of 46 or higher, ACT mathematics score of at least 26.

**(formerly MTH 123)**

- MATH 150**      **ANALYTIC GEOMETRY & CALCULUS I**      **(F)**      **5(5-0-0)**  
 The first course in a three semester sequence in differential and integral calculus. It is an introduction to analytic geometry, limits, continuity, differentiation of algebraic and transcendental functions, applications of derivatives, integration and applications of definite integrals. Use of graphing calculators and current technology will be emphasized.  
 PREREQUISITE: MATH 140 with a grade of "C" or higher, or COMPASS Trigonometry score of 46 or higher, or ACT Math score of at least 28.  
**(formerly MTH 122)**
- MATH 210**      **ANALYTIC GEOMETRY & CALCULUS II**      **(W)**      **5(5-0-0)**  
 The second course in a three semester sequence in differential and integral calculus. The course places emphasis on integration techniques and applications. Topics covered include techniques of integration, applications of the definite integral, an introduction to differential equations, parametric equations, polar coordinates, indeterminate forms, improper integrals, and infinite sequences and series. Vectors will be introduced in both two and three dimensional applications. Use of graphing calculators and current technology will be emphasized.  
 PREREQUISITE: MATH 150 (or equivalent) with a grade of "C" or higher.  
**(formerly MTH 211)**
- MATH 215**      **ANALYTIC GEOMETRY & CALCULUS III**      **(Variable)**      **4(4-0-0)**  
 The third course in a three semester sequence in differential and integral calculus. The course introduces students to two main areas of study: multivariable calculus and vector calculus. Topics included in the first area are partial derivatives, multiple integrals, directional derivatives and gradients, maximums and minimums, cylindrical and spherical coordinates, lines, planes, and quadric surfaces. Topics included in the second area are dot and cross products, vector valued functions, vector fields, line and surface integrals, curl and divergence, Green's Theorem and Stokes' Theorem. Use of graphing calculators and current technology will be emphasized.  
 PREREQUISITE: MATH 210 (or equivalent) with a grade of "C" or higher.  
**(formerly MTH 212)**
- MATH 225**      **DIFFERENTIAL EQUATIONS**      **(Variable)**      **3(3-0-0)**  
 A course in solving first and second order differential equations with some attention to the  $n^{\text{th}}$  order equation with constant coefficients. Emphasis is on equations that have applications in the physical sciences and engineering. Topics in differential equations include: linear, separable, homogeneous and exact equations, systems of differential equations, solutions by series, numerical methods, and the Laplace transform. Use of graphing calculators and current technology will be emphasized. PREREQUISITE: MATH 210 (or equivalent) with a grade of "C" or higher.  
**(formerly MTH 215)**
- MATH 235**      **LINEAR ALGEBRA**      **(Variable)**      **3(3-0-0)**  
 An introductory course to linear algebra bridging the world of axiomatic or postulational mathematics and the world of applied mathematics. Topics include matrices, determinants, systems of equations, vector spaces, inner product spaces, bases, linear transformations, eigenvectors and eigenvalues, and applications. Use of graphing calculators and current technology will be emphasized.  
 PREREQUISITE: MATH 210 (or equivalent) with a grade of "C" or higher.  
**(formerly MTH 250)**
- MATH 297**      **SPECIAL TOPICS - MATHEMATICS**      **(Variable)**      **3(3-0-0)**  
 Special Topics classes provide students opportunity for focused study with full-time or adjunct instructors teaching in their areas of expertise. Topics will vary.
- MATH 299**      **INDEPENDENT STUDY**      **(Variable)**      **1(1-0-0)**  
 A course offering students the opportunity to conduct in-depth studies of selected mathematical topics. Students make arrangements for a project under supervision of the mathematics professor who approves the proposed content.

## **MU – Music**

- MU 101**      **CHORALE I**      **(F,W)**      **1(1-0-0)**  
 A large size vocal organization that performs a comprehensive selection of music styles in concert. Chorale may be repeated for up to four credits and is open by audition to any student in the College.

<b>MU 102</b>	<b>CHORALE II</b>	<b>(F,W)</b>	<b>1(1-0-0)</b>
A small size vocal organization that performs classical, semi-classical and religious music in concert. Chorale II may be repeated for up to four credits and is open by audition to any student in the College.			
<b>MU 112</b>	<b>PRIVATE VOICE INSTRUCTION</b>	<b>(Variable)</b>	<b>1(0-2-0)</b>
A course providing private vocal lessons, with permission of each instructor, contingent upon approval by the Music Coordinator. Private voice Instruction may be repeated for up to three credits.			
<b>MU 115</b>	<b>PRIVATE INSTRUMENTAL INSTRUCTION</b>	<b>(Variable)</b>	<b>1(0-2-0)</b>
A course providing private lessons on an instrument of the student's specialty with permission of each instructor, contingent upon approval by the Music Coordinator. Private Instrumental instruction may be repeated for up to three credits.			
<b>MU 117</b>	<b>ORCHESTRA I</b>	<b>(Variable)</b>	<b>1(0-2-0)</b>
A large size instrumental organization that performs a comprehensive selection of music styles in concert. Orchestra I may be repeated up to three credits and is open by audition to any student. Must have experience playing a band or string instrument.			
<b>MU 120</b>	<b>HISTORY OF MUSIC</b>	<b>(F)</b>	<b>3(3-0-0)</b>
An overview of musical styles, historical periods, and technical elements designed to expand a student's musical intellect. GENERAL EDUCATION DISTRIBUTION AREA: Humanities			
<b>MU 130</b>	<b>MUSIC THEORY I</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A class of integrated fundamentals of basic musicianship. Training is given in aspects of all melodic and harmonic intervals and rhythms. MU 130 and MU 125 are identical courses, therefore credit will only be granted once for MU 130 or MU 125.			
<b>MU 131</b>	<b>MUSIC THEORY II</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
A continuation of Music Theory I. PREREQUISITE: MU 130 or MU 125			
<b>MU 141</b>	<b>CONTEMPORARY FINGER-STYLE GUITAR</b>	<b>(F)</b>	<b>2(2-0-0)</b>
Introduces the student to the alternating bass finger-picking style (commonly called Travis Picking) guitar method. Contains a comprehensive study of the patterns and variations of the style, taking the student through several solo pieces. The course is great for both beginning fingerpickers and more advanced players who want to learn this style of finger-picking. It is recommended that students have a rudimentary knowledge of the guitar and know the basic chords in the major and minor scales.			
<b>MU 150</b>	<b>INTRODUCTION TO MUSIC COMPOSITION</b>	<b>(W)</b>	<b>3(3-0-0)</b>
An introduction to history and techniques of composing music, in which students will discover and experiment with their musical ideas and creativity. The course investigates traditional compositional crafts, as well as more current or experimental tendencies, including pop, ethnic, and jazz idioms. A wide variety of musical styles will be considered in an effort to reveal the numerous ways in which composers present their musical ideas.			
<b>MU 297</b>	<b>SPECIAL TOPICS IN MUSIC</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.			

## **NISH – Anishnaabemowin**

<b>NISH 100</b>	<b>THE WAGANAKISING ODAWAK</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An introduction to the history, culture, language, and governance of the local Odawa people. Social conflicts between tribalism and capitalism, relations with other sovereign nations, casino and Odawa employment law, and the practice of storytelling are explored.			

<b>NISH 111</b>	<b>ELEMENTARY ANISHNAABEMOWIN I</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
A systematic introduction to the fundamentals of grammar, structure and vocabulary. Classes are conducted in Anishnaabemowin with a minimum of English.			
GENERAL EDUCATON DISTRIBUTION AREA: Humanities			
<b>NISH 112</b>	<b>ELEMENTARY ANISHNAABEMOWIN II</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course as a continuation of NISH 111, with increased emphasis on conversational ability. Classes are conducted in Anishnaabemowin, with a minimum of English.			
PREREQUISITE: NISH 111 or permission of the instructor.			
GENERAL EDUCATON DISTRIBUTION AREA: Humanities			
<b>NISH 150</b>	<b>ANISHNAABEK HEALTH TOPICS</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
An introduction to Anishinaabek perspectives on health topics. This course examines the role of traditional medicine and its relationship to Western medicine. Topics discussed include common diseases and their traditional responses, aspects of nutrition, wellness and family tradition in the healing process, and the importance of a healthy community and spirituality in the Anishinaabek perspective.			
<b>NISH 190</b>	<b>TRIBAL NATURAL RESOURCE MANAGEMENT</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
Tribes have become increasingly important resource managers. Tribes are responsible for the management of millions of acres land throughout the nation. The roles and the extent of tribal natural resource management is complicated and varies according to Treaties, Court Orders, location and can be influenced, increased or eliminated based on the outcome of court cases or federal legislation. This course is intended to expose the student to the court cases, treaties, laws, and agreements that govern tribal natural resource management in Michigan. And to shed light on the philosophy behind tribal natural resource management. This course will also touch on the types of management and problem solving strategies necessary or available to natural resource managers. Field trips are an essential part of this class.			
<b>NISH 211</b>	<b>INTERMEDIATE ANISHNAABEMOWIN I</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enhances proficiency in Anishnaabemowin through a communicative, cultural, and literature based approach. There is continued emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of Odawa beyond the college setting.			
PREREQUISITE: NISH 112			
GENERAL EDUCATON DISTRIBUTION AREA: Humanities			
<b>NISH 212</b>	<b>INTERMEDIATE ANISHNAABEMOWIN II</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
This course enhances proficiency in Anishnaabemowin through a communicative, cultural, and literature based approach. There is broadened emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of Odawa beyond the college setting.			
PREREQUISITE: NISH 211			
GENERAL EDUCATON DISTRIBUTION AREA: Humanities			
<b>NISH 245</b>	<b>ANISHINAABEMOWIN LINGUISTICS</b>	<b>(Variable)</b>	<b>1(1-0-0)</b>
The lens of the linguist will be used to analyze Anishinaabemowin by studying the language rather than learning the language. General linguistic topics will be explored prior to examining Anishinaabemowin the following specific topics: phonology, morphology, syntax, semantics, language acquisition, and pragmatics.			
GENERAL EDUCATON DISTRIBUTION AREA: Humanities			

## **NUR – Nursing**

<b>NUR 110</b>	<b>INTRODUCTION TO HEALTH CONCEPTS</b>	<b>(F)</b>	<b>10(7-5-4)</b>
Introduces the concepts of health within the three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts within the three domains including medication administration, assessment, nutrition, hemodynamics, tissue integrity, mobility, comfort, acid-base balance, communication, interdisciplinary teams, informatics, evidence-based practice, individual- centered care, safety and quality improvement. Upon completion of this course, students will be able to provide safe basic care to individual clients while incorporating the concepts in this course.			



- NUR 120**      **NURSING PROCESS**      **(F)**      **1(1-0-0)**  
 A course designed for licensed practical nurses transitioning to the role of the registered nurse. Emphasizes the nursing process as a critical thinking approach applied to clinical situations. Students will develop care plan entries utilizing the North American Nursing Diagnosis Association criteria.  
 PREREQUISITE: LPN accepted into the AAS Nursing Program
- NUR 130**      **HEALTH SYSTEM CONCEPTS**      **(F)**      **2(2-0-0)**  
 Introduces the concepts of health within the three domains of knowledge skills, and attitudes. Emphasis is placed on the concepts of patient-centered care, advocacy, diversity, family, gerontological nursing, therapeutic communication, spirituality, end of life, values of the profession, legal issues, teaching and learning, collaboration, managing care and quality improvement. Upon completion of this course, students will be able to incorporate all concepts of this course into the care of all patients within a variety of health care settings.  
 COREQUISITE: NUR 110.
- NUR 150**      **HEALTH-ILLNESS CONCEPTS**      **(W)**      **5(3-0-6)**  
 Introduces the concepts of health within the three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts within the three domains including cellular regulation, oxygenation, infection, stress/coping, health-wellness, illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Priority areas of care will include appropriate care of patients with cancer and cancer screening, management of diabetes, perioperative care, and nosocomial infection prevention and surveillance.  
 COREQUISITE: NUR 170.
- NUR 170**      **HOLISTIC HEALTH CONCEPTS**      **(W)**      **5(3-0-6)**  
 Designed to further develop the concepts within the three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts of sensory perception, stress-coping, sexuality, mood-affect/cognition, self concept, violence, health-wellness-illness, professional behaviors, caring interventions and safety. Priority areas of care will include dependencies, screening and treatment of major depression, and treatment of severe and persistent mental illness.  
 COREQUISITE: NUR 150.
- NUR 210**      **FAMILY HEALTH CONCEPTS**      **(F)**      **5(3-0-6)**  
 Designed to further develop the concepts within three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety and advocacy. Priority areas of care will include appropriate treatment of asthma in children and adolescents, children with special needs who may be at risk for chronic physical and developmental conditions, immunizations in children and adults, pregnancy and childbirth, and disease prevention in healthy populations.  
 COREQUISITE: NUR 230.
- NUR 230**      **ACUTE CARE CONCEPTS**      **(F)**      **5(3-0-6)**  
 Further develops the concepts within the three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts of grief-loss, violence, health-illness-wellness, collaboration, managing care, safety, advocacy and evidence based practice. Priority areas of care will include well to frail elder management, sensory perception, maximizing mobility, and developing advanced care plans related to end-of-life and chronic care conditions. Obesity as an emerging area which affects a broad range of individuals will be emphasized. Upon completion of this experience, students will be able to provide advanced holistic care to individuals and their families in a variety of acute care settings.  
 COREQUISITE: NUR 210.
- NUR 250**      **MANAGEMENT OF CARE CONCEPTS**      **(F)**      **1(1-0-0)**  
 Focuses on health care management within the three domains of knowledge skills, and attitudes. Emphasis is placed on the concepts of managing patient centered care, advocacy, legal issues, collaboration, resource management, and quality improvement within the context of the health care environment. Upon completion of this course, students should be able to provide holistic care as part of a multidisciplinary team to groups of individual patients and families while incorporating the concepts of this course.  
 COREQUISITES: NUR 210, NUR 230.

**NUR 270                    COMPLEX CARE CONCEPTS                    (W)                    11(6-0-15)**  
 Assimilates the concepts within three domains of knowledge, skills and attitudes. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health/wellness-illness, professional behaviors, caring interventions, managing care, health care systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality individualized entry level nursing care to a group of patients.

**OAS – Office Administrative Services**

**OAS 101                    CUSTOMER SERVICE                    (F,W,S)                    1(1-0-0)**  
 This course is designed to provide training in customer service skills required of employees in the business or office setting. Through the use of group discussion, activities and personal skills practice, students learn to communicate effectively with their customers in a variety of situations. Emphasis is placed on creating positive, memorable experiences for all customers. Participants learn skills in how to determine and respond appropriately to customer needs, recognize opportunities to exceed customer expectations, avoid creating negative customer interactions, and manage customer transactions toward positive, efficient conclusions.

**OAS 116                    MEDICAL TERMINOLOGY                    (F,W,S)                    3(3-0-0)**  
 This course is designed to develop a basic understanding of the spelling, meaning and pronunciation of commonly used prefixes, suffixes, and root words, and their combining forms used in all fields of allied health professions.

**OAS 117                    MEDICAL TRANSCRIPTION                    (W)                    3(3-0-0)**  
 A primer in medical transcription skills. Medical specialty reports including history and physical examination, discharge summary, consultations report, operation report, radiological report and correspondence are covered. Vocabulary and research of related medical data are also included, with emphasis on accuracy, editing skills, proofreading, charting skills and an introduction to formatting. PREREQUISITES: OAS 116, OAS 122, OAS 224.

**OAS 121                    COMPUTER KEYBOARDING/SOFTWARE FUNDAMENTALS                    (F,W,S)                    3(3-0-0)**  
 A beginning course in touch keyboarding and Windows software and the basic use of computers. Keyboard mastery and basic use of word processing and operating system software is the focus. Application is made to simple problems in basic formatting and document preparation. A course designed to establish keyboarding confidence and basic document preparation on the computer. Review and drill work is available for those students who have previously developed some typing skill.

**OAS 122                    DOCUMENT PROCESSING I                    (F,W)                    3(3-0-0)**  
 Students learn to produce documents using word processing software. Student work to increase keyboarding speed and accuracy, and apply total quality management concepts to document production. Introductory computer concepts and skills are also mastered. Previous knowledge of Windows and Word Processing is helpful.  
 PREREQUISITE: OAS 121 or keyboard speed of 30 wpm and general word processing knowledge.

**OAS 141                    FILING AND RECORDS MANAGEMENT                    (F,W,S)                    2(2-0-0)**  
 Introduction to the basic principles and procedures of records storage and control for manual and automated records systems using popular methods. Introduces database concepts needed for understanding automated record storage and retrieval methods including modifying, sorting, designing, searching, and printing. Practical application of filing is used to give students hands-on experience including alphabetic, numeric and subject storage methods.

**OAS 190                    EMPLOYABILITY SKILLS                    (F,W,S)                    1(1-0-0)**  
 This course is designed for all majors. It is ideal as a capstone course at the close of the student's course-work or helpful anytime an individual is ready to embark on a new job search. Topics presented include: company research, interviewing, and creating effective job search documents. Students develop practical skills to encompass techniques and strategies, ethical and legal considerations advocated in the workplace. The material is presented in a condensed time period to equal one credit.

<b>OAS 216</b>	<b>MEDICAL INSURANCE BILLING</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
Includes diagnostic and procedure coding; basic insurance concepts and terminology used by health insurance carriers; completion of claim forms for commercial insurance companies, Blue Cross-Blue Shield of Michigan, Medicare and Medicaid.			
<b>OAS 217</b>	<b>MEDICAL TRANSCRIPTION II</b>	<b>(Variable)</b>	<b>(3-0-0)</b>
This course expands the transcription skills by the use of dictation in specialty areas of medicine including dictation by professionals who speak English as their second language. Because the course materials to be transcribed are dictated by physicians and/or medical practitioners in realistic settings, the students become accustomed to transcribing dictation that is very similar to that encountered on the job. Students further develop skills in efficient usage of reference materials and medical terminology. Critical thinking/decision making and in-depth proofreading/editing activities are stressed. PREREQUISITES: OAS 116, OAS 117, OAS 122, and OAS 224.			
<b>OAS 220</b>	<b>BEGINNING MEDICAL CODING</b>	<b>(F,W,S)</b>	<b>2(2-0-0)</b>
Prepares students for entry level jobs in a doctor's office or other medical facility. Includes ICD-9-CM Coding, CPT Coding, Medicare Fraud & Abuse, and Evaluation & Management. Students will need access to a ICD-9-CM and CPT manual for this course, in conjunction with a course CD.			
<b>OAS 221</b>	<b>BEGINNING MEDICAL BILLING</b>	<b>(F,W,S)</b>	<b>2(2-0-0)</b>
Prepares students for entry level jobs in accounting skills necessary in a doctor's office or other medical facility. This course includes Front Office Management, Filing Part B HCFA 1500, Filing Part A HCFA 1450, All About Medicare, Medicare Billing Problems, Patient Record Keeping using Medisoft, Medicare as Secondary Payer, Medicare & Home Health, Medicare and Women's Health. Also included is a 1000 page 28 chapter Advanced Claims Processing Manual with everything needed to start a medical billing business from home.			
<b>OAS 223</b>	<b>DOCUMENT PROCESSING II</b>	<b>(W)</b>	<b>3(3-0-0)</b>
This course develops speed and accuracy in producing business and personal documents such as letters, manuscripts, outlines, tables, forms and templates, publications, meeting reports, and repetitive correspondence. The student concentrates on technique improvement, language arts, and proofreading for perfect copy, decision making and total quality management in using the computer to process documents. PREREQUISITE: OAS 122 with a C (2.0) grade minimum or permission of the instructor.			
<b>OAS 224</b>	<b>TRANSCRIPTION/EDITING</b>	<b>(F,W)</b>	<b>4(4-0-0)</b>
Instruction in the use of machine dictation and transcription equipment. Specially prepared practice tapes are used for initial learning, with the focus on developing speed and accuracy in transcription. Reinforcement of communication skills including grammar, spelling and vocabulary are also emphasized. PREREQUISITE: Typing and knowledge of word processing.			
<b>OAS 230</b>	<b>ADVANCED MEDICAL CODING ICD-9-CM</b>	<b>(F,W,S)</b>	<b>2(2-0-0)</b>
The official coding guidelines concerning the most common yet complex diagnosis coding issues are summarized in this course, which is organized by major body system chapter, as found in ICD-9-CM manual. Each chapter is organized by (1) Issues (2) Coding clarification (3) Physician Documentation Issues, and (4) Coding Scenarios. Real life coding problems illustrating the issues are presented with ICD-9-CM solutions. PREREQUISITE: OAS 220 or OAS 216			
<b>OAS 231</b>	<b>ADVANCED MEDICAL CODING CPT</b>	<b>(F,W,S)</b>	<b>2(2-0-0)</b>
An in-depth examination of coding as it is covered in the CPT book. Frequently asked questions from real life situations are answered in an authoritative manner. The main emphasis is on Evaluation and Management and Surgery codes. A five step outline is used to help you code the exercises/scenarios in the problems. Detailed medical history reports, including post operative reports, are provided from which CPT codes are determined. PREREQUISITE: OAS 220 or OAS 216			
<b>OAS 241</b>	<b>ADMINISTRATIVE PROCEDURES</b>	<b>(W)</b>	<b>3(3-0-0)</b>
A comprehensive study of the duties of administrative assistants, with special emphasis on human relations, organization, job task analysis and communications. Current topics such as business etiquette, prioritizing, ethics, software and equipment choice and team building will be discussed. Handling schedules, planning meetings, making travel arrangements, utilizing communication services and the Internet and multi-tasking are also explored. PREREQUISITE: OAS 122 with 2.0 minimum grade point average			





**PE 297**                    **SPECIAL TOPICS IN PHYSICAL EDUCATION**                    **(F,W,S)**                    **3(3-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

## **PHL – Philosophy**

**PHL 101**                    **INTRODUCTION TO PHILOSOPHY**                    **(F,W)**                    **3(3-0-0)**  
An introduction to the thinkers, systems and problems of philosophy, along with an examination of the influences of these on the religion, politics, morality, art and literature of the time.  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**PHL 102**                    **INTRODUCTION TO LOGIC**                    **(F,W)**                    **3(3-0-0)**  
This introduction to logic is designed to help the student analyze the arguments found in everyday situations, as well as to sharpen analytic skills. Deductive and inductive techniques are discussed, along with common logical fallacies and strategies of argumentation.

**PHL 105**                    **INTRODUCTION TO ETHICS**                    **(W)**                    **3(3-0-0)**  
An introduction to the study of morality, including theories of right and wrong behavior, value (goodness and badness), and virtue. This course is an interdisciplinary approach to ethics, with examples pulled from all walks of life including but not limited to medicine, business, science, law, communication, and sports. Besides providing familiarity with the primary questions addressed within moral philosophy, this course is designed to help students develop their abilities to evaluate and express their own ethical positions and think critically and analytically about ethical issues.  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**PHL 109**                    **CONTEMPORARY MORAL ISSUES**                    **(F,W)**                    **3(3-0-0)**  
This course is designed to provide students with a general foundation in ethics as well as familiarity with specific contemporary moral issues. In accomplishing the course objectives, students will study methods of effective reasoning, reflect critically upon their own values and ethical standards, and apply their critical thinking skills to specific contemporary moral issues.

**PHL 150**                    **DANGEROUS IDEAS**                    **(W,S)**                    **3(3-0-0)**  
Covers a variety of issues defined as ideas or concepts which either challenge contemporary thought and practice or contain inhibitions resulting from social custom or emotional aversion. These ideas will be examined in the context of law, psychology, moral philosophy, science, religion and politics.

**PHL 297**                    **SPECIAL TOPICS IN PHILOSOPHY**                    **(Variable)**                    **3(3-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**PHL 299**                    **INDEPENDENT STUDY**                    **(Variable)**                    **2(2-0-0)**  
An opportunity for students to conduct in-depth studies in a topic of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline that the project will cover.

## **PHLB – Phlebotomy**

**PHLB 101**                    **PHLEBOTOMY I**                    **(F)**                    **4(2-4-0)**  
Prepares students for the role of the phlebotomist and to be a member of the health care team. Infection, quality control and safety, specimen collection, techniques for venipuncture and dermal or capillary puncture, specimen transport and processing and legal, ethical and professional conduct will be presented.  
PREREQUISITE: High school graduate, at least 18 years of age.

**PHLB 102 PHLEBOTOMY II (W) 2(0-0-8)**  
Application of venipuncture and dermal puncture techniques in the clinical setting. This course is designed to enable the student to apply procedures learned in PHLB 101 to a clinical laboratory setting. While at the worksite (clinical laboratory), students will be under the supervision of a preceptor. The course includes lecture, a practical review of techniques, and worksite experience.  
PREREQUISITE: Completion of PHLB 101 with a C or better.

## **PHO – Photography**

**PHO 107 DIGITAL PHOTOGRAPHY I (Variable) 3(3-0-0)**  
A basic digital photography course in which students will learn the importance of natural light, the steps to effective composition, and the creative controls of their cameras. Students must bring a digital camera rated at five megapixels or higher to the course.

**PHO 120 DIGITAL PHOTOGRAPHY II (F) 3(3-0-0)**  
An introduction to current digital imaging technology as relates to the production of photographic imagery. Using digital cameras, printers, and photo imaging software, students will learn how to capture, enhance, and print digital images. Prior computer experience is recommended.  
PREREQUISITE: PHO 100 or PHO 107

**PHO 210 ADVANCED PHOTOGRAPHY (Variable) 3(3-0-0)**  
An advanced photography course intended to hone the students' technical skills. Development and growth in the artistic use of the medium is emphasized.  
PREREQUISITE: PHO 100

**PHO 295 FIELD STUDIES IN PHOTOGRAPHY (Variable) 3(3-0-0)**  
Offers students opportunities to explore topics and activities in photography outside the traditional classroom/lab setting. Descriptions of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses.  
PREREQUISITE: Permission of the instructor

## **PHY – Physics**

**PHY 101 CONCEPTS IN PHYSICS (F,W) 4(3-2-0)**  
A qualitative study of select topics in physics including: mechanics, energy, electricity, optics and sound. Intended for non-science students requiring a survey of physics for general education requirements or those students pursuing certification in elementary education. Includes practical laboratory exercises. PREREQUISITE: MATH 110  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**PHY 210 GENERAL PHYSICS I LECTURE\REVIEW\LAB (F) 5(4-2-0)**  
The first semester of a one-year introduction, intended for students who require a trigonometry-based approach to physics. Topics include the principles and practical applications of mechanics (kinematics, dynamics, energy, momentum, simple harmonic motion), fluids, and thermal physics. This course includes laboratory work.  
PREREQUISITE: MATH 140 or higher  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**PHY 211 GENERAL PHYSICS II LECTURE\REVIEW\LAB (W) 5(4-2-0)**  
A continuation of PHY 210. Topics include the principles and practical applications of wave motion, electricity, magnetism, light, optics, and modern physics. The course includes laboratory work. PREREQUISITE: PHY 210 with a grade of C or better.  
GENERAL EDUCATION DISTRIBUTION AREA: Science

**PHY230**                    **PHYSICS FOR SCIENTISTS & ENGINEERS I**                    **(F)**                    **5(4-3-0)**  
 An introduction to the principles and practical applications of Mechanics (including kinematics, dynamics, energy, momentum, simple harmonic motion, and fluids) and Thermal Physics using concepts from differential and integral calculus. Represents the first semester of a one-year sequence. This course is intended for students who require a calculus-based physics course in preparation for further study in the physical sciences beyond this sequence. The course includes laboratory work.  
 PREREQUISITE: MATH 150 or higher  
 GENERAL EDUCATION DISTRIBUTION AREA: Science

**PHY 231**                    **PHYSICS SCIENTISTS & ENGINEERS II**                    **(W)**                    **5(4-3-0)**  
 A continuation of PHY 230. Topics include the principles and practical applications of wave motion, electricity, magnetism, light, optics, and modern physics using concepts from differential and integral calculus. The course includes laboratory work.  
 PREREQUISITE: PHY 230 with a grade of C or better.  
 GENERAL EDUCATION DISTRIBUTION AREA: Science

**PHY 297**                    **SPECIAL TOPICS IN PHYSICS**                    **(Variable)**                    **3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their area of expertise.

**PLS - Political Science**

**PLS 141**                    **INTRODUCTION TO AMERICAN GOVERNMENT**                    **(F,W,S)**                    **3(3-0-0)**  
 A survey of political institutions emphasizing the forms and functions of America’s federal government. The rights and responsibilities of citizenship in the democratic process are studied. This course also explores the political process, describes its structure and illustrates its functions.  
 GENERAL EDUCATION DISTRIBUTION AREA: Social Science

**PLS 170**                    **TRIBAL GOVERNANCE AND FEDERAL INDIAN POLICY**                    **(Variable)**                    **3(3-0-0)**  
 An introduction to Tribal governance and the legal structures which constitute Tribal government. The impact of Federal law-making on Indian tribes and Federal policy towards Indian tribes will be discussed. The structure of tribal governance in the state of Michigan will be explored; topics will include present constitutional structures, government-to-government relationships, and traditional governance practices. Criminal and civil jurisdiction in Indian country will be discussed; topics will include concurrent versus exclusive jurisdiction, tax, child welfare, land management, prosecution of criminal offenses, and other civil regulatory issues. How tribal governments exercise sovereignty will be discussed. Topics will be related to Tribal governments within the State of Michigan.

**PLS 200**                    **INTERNATIONAL RELATIONS**                    **(Variable)**                    **3(3-0-0)**  
 This course analyzes the actions of international organizations, multinational corporations and individual world leaders in regards to their impacts on foreign relations. The influences and connections found in historical, geographical and social structures are addressed as appropriate. This knowledge is then applied in a case study format to current international controversies.

**PLS 225**                    **STATE AND LOCAL GOVERNMENT**                    **(Variable)**                    **3(3-0-0)**  
 An examination of participatory democracy at the local level of government, and the roles of interest groups in influencing public opinion, voting behavior and public policy. The laboratories for this course are the county, township, city and village: commissions, councils and boards. Interest group organizational models are operational processes are analyzed.

**PLS 295**                    **FIELD STUDY IN POLITICAL SCIENCE**                    **(Variable)**                    **1-5(1-5-0)**  
 Offers students opportunities to explore topics and activities in political science outside the traditional classroom/lab setting. Description of specific activities, locations, credit values, and student responsibilities will vary and be announced prior to class registration. Course fees will reflect trip expenses.  
 PREREQUISITE: Permission of the instructor

**PLS 297**                    **SPECIAL TOPICS IN POLITICAL SCIENCE**                    **(Variable)**                    **3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.



<b>PLS 299</b>	<b>INDEPENDENT STUDY</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
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A course offering students the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline the project will cover.

### **PSY – Psychology**

<b>PSY 161</b>	<b>INTRODUCTION TO PSYCHOLOGY</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
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This course will introduce students to the scientific study of thought, behavior, and emotion in humans and animals. Emphasis will be placed on (but not limited to) the study of personality, learning, memory, intelligence, gender and sexuality, social interaction, group processes, motivation, emotion, and sociocultural factors in both a current and historical perspective. Basic concepts and principles of psychology will be examined with a comprehensive focus on research methodology and the biological basis of behavior.

GENERAL EDUCATION DISTRIBUTION AREA: Social Science

<b>PSY 210</b>	<b>HUMAN SEXUALITY</b>	<b>(F,W)</b>	<b>3(3-0-0)</b>
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This course will provide information about major topics of human sexuality by exposing students to the latest in both physiological and psychosocial research through classroom lectures and discussions as well as group and independent projects. Emphasis will be placed on acquiring a better understanding of such areas as sexual anatomy and physiology, sexual orientations, sexual dysfunctions, sexually transmitted infections, gender roles, love and attraction, reproduction, atypical sexual thoughts and behaviors, therapy, and legal and ethical issues pertaining to human sexuality.

<b>PSY 230</b>	<b>MENTAL ILLNESS IN FILM</b>	<b>(Variable)</b>	<b>3(3-0-0)</b>
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Focuses on the cinematic representation of mental illness, with major focus on the characteristics, development, dynamics and classification, maintenance, and treatment of psychopathology as depicted in a wide variety of mainstream and independent cinema.

PREREQUISITE: PSY 161

<b>PSY 235</b>	<b>THEORIES OF PERSONALITY</b>	<b>(W)</b>	<b>3(3-0-0)</b>
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Explores the basic perspectives of personality, and how they relate to the student’s understanding of his or her life. Personality psychology is a scientific study that asks such questions as: 1) What are people’s traits? 2) What are people’s temperaments? 3) What are the implications of these in a person’s life? (questions are examined through systematic observations of how and why people behave the way they do). Course will focus on cognitive, cultural, biological, psychodynamic, and trait factors of human personality with practical applications for counseling, health professions, business, education, child care, and criminal justice fields.

PREREQUISITE: PSY 161

<b>PSY 241</b>	<b>ABNORMAL PSYCHOLOGY</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
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This course will focus on the nature and causes of psychological disorders, with major focus on the characteristics, development, dynamics and classification, maintenance, and treatment of abnormal behavior. Additional emphasis will be placed on various types of psychotherapies and theories of prevention, with an incorporation of current and historical research pertaining to the biological basis for abnormality.

PREREQUISITE: PSY 161

<b>PSY 255</b>	<b>CHILD PSYCHOLOGY</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
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Examine growth and development from the prenatal period through adolescence. The course is comprehensive and covers biological processes, physical development and health, cognition and language, and social emotional development within the contexts of families, peers, schools, and cultures. Connections to research, developmental processes, careers, and real life are embedded.

<b>PSY 261</b>	<b>DEVELOPMENTAL PSYCHOLOGY</b>	<b>(F,W,S)</b>	<b>3(3-0-0)</b>
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This course will examine the physiological and psychosocial lifespan development of humans from conception to death through classroom discussion and lecture as well as individual student projects. Emphasis will be placed on the longitudinal examination of social, emotional, and cognitive development, with a focus on interpersonal relationships with parents, peers, and others. Other focus areas will include personality, gender roles, difficulties related to school and work, and the impact of nature and nurture across the lifespan.

PREREQUISITE: PSY 161

**PSY 290 SOCIAL PSYCHOLOGY (F) 3(3-0-0)**  
 This course will utilize an empirical approach to understanding how people think about, influence, and relate to one another in a social interaction context with primary focus on the individual. Emphasis will be placed on (but not limited to) the study of attitude formation and change, impression formation and management, group dynamics and processes, social interrelations and intrarelations, and sociocultural influence.  
 PREREQUISITE: PSY 161

**PSY 297 SPECIAL TOPICS PSYCHOLOGY (Variable) 3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**PSY 299 INDEPENDENT STUDY (Variable) 3(3-0-0)**  
 A course offering students the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements for a project under the supervision of a professor of their choice in the discipline the project will cover.

**REC – Recreation**

**REC 110 INTRODUCTION TO OUTDOOR RECREATION (F) 3(1-4-0)**  
 An introduction to the history and progression of outdoor recreation in the U.S. Students will develop an understanding of the roles played by federal, state and local governments, as well as the private sector, in providing outdoor recreation activities and programs. Students will experience a balance between theory and hands-on, practical experiences and will gain an understanding of employment options and professional opportunities in the growing market of outdoor recreation.

**REC 120 INTRODUCTION TO OUTDOOR LEADERSHIP (W) 3 (1-4-0)**  
 Provides students with the knowledge to organize and safely lead outdoor activities. This course combines theory and practical experiences to address the management and leadership aspects as well as the technical skills of outdoor leadership. Central course topics include safety and first aid, trip planning and debriefing, environmental impact, lesson plans and learning styles, expeditionary behavior, liability and career options. Technical skills introduced include ropes courses, sea kayaking, rock climbing and backpacking.

**REL – Religion**

**REL100 WORLD RELIGIONS (F,W) 3(3-0-0)**  
 An introduction to the nature of religion and various religions past and present, including Indigenous, Hinduism, Buddhism, Confucianism, Judaism, Christianity and Islam, Jainism, Sikhism, Shinto, Zoroastrianism, and Taoism.  
 GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**REL 102 HISTORY OF RELIGION IN THE U.S. (F,W) 3(3-0)**  
 The story of religion in the United States from the early Puritans to modern pluralism. Emphasis is on the main contributions of religion to American culture; church and state relationships; major trends; contemporary issues; and the religious questions surfacing in modern American art and literature.

**REL 297 SPECIAL TOPICS IN RELIGION (Variable) 3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**REL 299 INDEPENDENT STUDY (Variable) 3(3-0-0)**  
 Independent Study is designed for students who have surpassed the normal scope of course offerings in a given discipline.

## **RUS – Russian**

**RUS 111**      **ELEMENTARY RUSSIAN I**      **(F)**      **4(4-0-0)**  
Gives an elementary level of understanding of the Russian language through a communicative and cultural approach. Students will transition from simple words to complete sentences. Emphases are placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar.  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**RUS 112**      **ELEMENTARY RUSSIAN II**      **(F)**      **4(4-0-0)**  
Gives a secondary level of Russian through a communicative and cultural approach. A continuation of Elementary Russian I. Emphasis is placed on listening and reading for comprehension, as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. This course broadens student expression of perspectives and appreciation of Russian culture. PREREQUISITE: RUS 111  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**RUS 297**      **SPECIAL TOPICS IN RUSSIAN**      **(Variable)**      **4(4-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

## **SD – Student Development**

**SD 101**      **COLLEGE STUDY METHODS**      **(Variable)**      **3(3-0-0)**  
Provides students with study skills applicable to any discipline. Topics include improving or developing memory, time scheduling, lecture notes, test strategies, health and wellness, career exploration, critical thinking, learning style awareness, project and paper development, and library skills.

**SD 107**      **PROFESSIONAL DEVELOPMENT SKILLS**      **(Variable)**      **1(1-0-0)**  
Focuses on the following: understanding the requirements of the professional work environment; integrating both the personal and professional self; learning how to identify, analyze, and resolve specific ethical issues; learning how to understand various organizational codes and policies; the importance of quality, customer satisfaction, and social responsibility. This course will also increase students' understanding of professional networking and interpersonal communication. It will also foster an approach that will teach students how to identify and prioritize developmental needs that will help them set specific developmental objectives to satisfy those needs.

**SD 110**      **BASIC SKILLS TEST-PREP COURSE**      **(Variable)**      **1(1-0-0)**  
A course providing students training through PLATO instructional software, addressing reading, math and writing review. This course is aimed at preparing students to sit for the Basic Skills Test required of K-12 paraprofessionals. Course may be repeated. Student may receive no more than a total of 3 credits for this course.

**SD 115**      **READ TO SUCCEED**      **(F,W)**      **4(3-2-0)**  
Learn new skills to make your college career easier! This class addresses three main skills of reading. Learn to read faster, understand and remember what you read, and pronounce unknown words. It is the same class as the SD 120, Reading for College Success, but is for students who score below 72 on the Compass Reading Test, because it provides more personalized instruction and practice.  
PREREQUISITE: Score of 64 on the Compass Reading Test

**SD 120**      **READING FOR COLLEGE SUCCESS**      **(F,W)**      **3(3-0-0)**  
Provides instruction and practice in reading college-level textbooks and supplementary materials. Concepts studied include developing strategies for comprehending texts, becoming active readers and learners, and applying effective reading and studying techniques in common required classes from across the curriculum. This class should help students comprehend reading assignments, improve on tests, and complete individual programs.

**SD 125 FIRST YEAR EXPERIENCE (F,W,S) 3(3-0-0)**  
 Students will learn to identify and develop the beliefs, attitudes, behaviors, life and study skills that lead to academic, career and personal success. Through self-assessment, readings, projects, classroom activities and journal writing, students will learn to take charge of their lives, increase self-esteem and self-awareness, create a compelling college and life plan and learn to maximize their college experience. New certificate-or degree-seeking students with placement into MATH 090, ENG 090 or 095 are required to take SD 125 within the first two semesters of attendance.

**SD 135 LEADERSHIP AND SERVICE LEARNING I (F) 1(1-0-0)**  
 Develops student leadership skills through the utilization of service learning. This is enhanced by linking academic coursework, group dynamics, and volunteerism to benefit both the student and the community.

## **SOC – Sociology**

**SOC 110 INTRODUCTION TO WOMEN’S STUDIES (Variable) 3(3-0-0)**  
 A multidisciplinary and multicultural introduction to Women’s Studies. This course examines the evolving role of women in society as well as the contemporary and historical status of women. Topics discussed include the sociocultural construction of gender and the influence of gender in various aspects of modern social institutions and everyday life. Emphasis is on American society, but a cross-cultural perspective is provided.

**SOC 115 ANISHINAABEK CULTURE (F,W) 1(1-0-0)**  
 An introduction to the Anishinaabek people. Topics covered will include the origin, culture, tradition and language of the Anishinaabek people. This course will also cover both historical and current issues of the tribe.

**SOC 120 CONTEMPORARY SOCIAL PROBLEMS (F) 3(3-0-0)**  
 This course is an introduction to the sociological analysis of social problems and the application of this analysis to these specific problems. Global and national problems are discussed such as crime, poverty, race, ethnicity and gender inequality, the sex industry, substance abuse, healthcare, education, population and the environment. Particular emphasis is on the social problems within American society. An introductory course in sociology is recommended prior to taking SOC 120.

**SOC 171 INTRODUCTION TO SOCIOLOGY (F,W,S) 3(3-0-0)**  
 This course is an introduction to the scientific study of society, examining modern Western societies in terms of social processes, organizations, institutions and problems. Topics covered include: the sociological perspective, socialization and culture, social networks, group dynamics, social deviance, social stratification, sex and gender inequality, race and age inequality and collective behavior.  
 GENERAL EDUCATION DISTRIBUTION AREA: Social Science

**SOC 175 INTRODUCTION TO SUSTAINABLE LIVING (F) 3(3-0-0)**  
 Introduces a broad conceptual understanding of relationships between environment, economy and community through real world, hands-on experience with local sustainable living organizations. For completion of this course, the student will be required to spend 3 hours per week in a service learning environment outside the classroom, in addition to the 3 hours of classroom lecture.

**SOC 208 JUVENILE DELINQUENCY (Variable) 3(3-0-0)**  
 This course analyzes juvenile delinquent behavior in relationship to the institutional framework of society. Emphasis is on the extent, causes and methods of treatment of juvenile delinquency in the United States. Topics discussed include juvenile crime, the causes and control of juvenile crime including statistics of crime, problems of juvenile offenders, problems of probation and paroles, and the work of youth agencies. An introductory course in Sociology is recommended prior to taking SOC 208.

**SOC 220 DEATH AND DYING (W) 3(3-0-0)**  
 This course is an examination of the way in which ideas and values regarding death and dying are socially constructed and contextually grounded. The historical, socioeconomic, psychological, and political construction of death and dying within the United States is emphasized. A comparative aspect is also provided.

**SOC 230 RACE AND ETHNICITY IN AMERICA (W,S) 3(3-0-0)**  
 This course introduces the student to the status of racial and ethnic minorities in the United States with particular reference to the social dynamics involved with regard to majority-minority relations. Emphasis is on the culture, social organization and status, and the problems and opportunities of various ethnic groups. Topics covered include inequality, segregation, pluralism, the nature and causes of prejudice and discrimination and the impact that such patterns have upon American life. An introductory course in Sociology is recommended prior to taking SOC 230.

**SOC 250 DEVIANT BEHAVIOR (F,W) 3(3-0-0)**  
 This course examines behavior and beliefs within American Culture that have been identified as deviant in our society. The historical development of attitudes toward such behaviors and beliefs is emphasized along with the casual theories of deviance. Topics covered include substance abuse, mental illness, sexual preference, prostitution, suicide and crime. An introductory course in Sociology is recommended prior to taking SOC 250.

**SOC 260 ANISHINAABEWIN (CULTURE) (Variable) 3(3-0-0)**  
 The Anishinaabe social structure has been in a state of flux for 500 years and provides a rich cultural example of social change. The student will develop an understanding of the components of a society and what forces cause changes in those structures. Then study the pre- and post-contact Anishinaabewin (culture) to determine the disorganization caused by colonialism and finally study some more recent changes caused by de-colonialism on specific components within Anishinaabewin.

**SOC 271 MARRIAGE AND THE FAMILY (F,W) 3(3-0-0)**  
 This course is a sociological analysis of marriage and the family as social institution. Family and marriage as institutions have been shaped by many aspects of society, as a social system within its own dynamics, and as a primary group affecting the lives of its members. Emphasis is on issues such as choosing a marriage partner, sexual adjustment, occupational involvement, conflict resolution, parenthood, divorce, and readjustment. An introductory course in Sociology is recommended prior to taking SOC 271.

**SOC 297 SPECIAL TOPICS IN SOCIOLOGY (Variable) 3(3-0-0)**  
 Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**SOC 299 INDEPENDENT STUDY SOCIOLOGY (Variable) 3(3-0-0)**  
 A course offering student the opportunity to conduct in-depth studies in their fields of interest. Students make arrangements to do the project under the supervision of the professor of their choice in the discipline the project will cover.

## **SPAN – Spanish**

**SPAN 109 TRAVEL SPANISH (Variable) 3(3-0-0)**  
 Promotes Spanish language speaking; listening proficiency and cultural sensitivity within the context of various travel situations, such as: customs, airport, restaurant, hotel, store, market, and emergencies.

**SPAN 111 ELEMENTARY SPANISH I (F,W) 4(4-0-0)**  
 This course enables students to begin acquiring proficiency in Spanish through a communicative and cultural approach. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. Language study and this course promote student expression of cross-cultural perspectives.  
 GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**SPAN 112 ELEMENTARY SPANISH II (F,W) 4(4-0-0)**  
 This course enhances proficiency in Spanish and is a continuation of SPAN 111. Emphasis is placed on listening and reading for comprehension as well as speaking and writing for real-life purposes through an acquisition of applied vocabulary and grammar. This course broadens student expression of perspectives and appreciation of Spanish culture.  
 PREREQUISITE: SPAN 111 or one year high school Spanish or permission of the instructor  
 GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**SPAN 211**      **INTERMEDIATE SPANISH I**      **(F,W)**      **4(4-0-0)**  
This course enhances proficiency in Spanish through a communicative, cultural, and literature based approach. There is continued emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of Spanish beyond the college setting.  
PREREQUISITE: SPAN 112 or two years of high school Spanish or permission of the instructor  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**SPAN 212**      **INTERMEDIATE SPANISH II**      **(F,W)**      **4(4-0-0)**  
This course enhances proficiency in Spanish through a communicative, cultural and literature based approach. There is broadened emphasis on the development of listening, analytical reading, creative writing and speaking. Multi-cultural sensitivity is encouraged as well as real-life application of Spanish beyond the college setting.  
PREREQUISITE: SPAN 211, three years of high school Spanish, or permission of the instructor  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**SPAN 297**      **SPECIAL TOPICS IN SPANISH**      **(Variable)**      **3(3-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

**SPAN 299**      **INDEPENDENT STUDY SPANISH**      **(Variable)**      **3(3-0-0)**  
A course offering students the opportunity to conduct in-depth studies in their field of interest. Students make arrangements for a project under the supervision of an instructor in the discipline.

## **SRG – Surgical Technologist**

**SRG 120**      **SURGICAL TECHNOLOGIST I**      **(F-Odd years only) 9(6-4-4)**  
This is the first course in the four-semester sequence for Surgical Technologist students. Students will be introduced to the discipline of surgical technology, responsibilities to their patients and their fellow team members, issues of legality and ethics in the surgical setting, communication and teamwork, as well as content related to microbes and the process of infection, sterile techniques, transporting, transferring, and positioning the surgical patient, as well as basic principles of anesthesia, physiological monitoring, computer technology, endoscopic, and robotic-assisted surgeries. Course format will include lecture, lab practice, and clinical observations.  
PREREQUISITES: Admission to the Surgical Technologist program (AH 182 [pre- or corequisite], BIO 226, BIO 235, BIO 236, EMS 101, ENG 111, MATH 110, OAS 116)

**SRG 130**      **SURGICAL TECHNOLOGIST II**      **(W-Even years only) 9(6-4-4)**  
This is the second course in the four-semester sequence for Surgical Technologist students. Topics will include: an introduction to surgical techniques, diagnostic and assessment procedures, surgical instruments, and general surgical techniques as they relate to abdominal and orthopedic procedures. Course format will include lecture, lab practice, and clinical observations.  
PREREQUISITES: Admission to the Surgical Technologist Program, completion of SRG 120 with "C+" or better.

**SRG 220**      **SURGICAL TECHNOLOGIST III**      **(F-Even years only) 9(6-4-4)**  
This is the third course in the four-semester sequence for Surgical Technologist students. Topics will include: the role of the surgical technologist in ophthalmic, ENT, oral and maxillofacial, plastic, reconstructive, vascular, cardiac, pediatric, and neurosurgical procedures. Course format will include lecture, lab practice, and clinical observations.  
PREREQUISITES: Admission to the Surgical Technologist Program, Completion of SRG 130 with "C+" or better.  
COREQUISITES: None

**SRG 230**      **SURGICAL TECHNOLOGIST IV – EXTERNSHIP**      **(W-Odd years only) 9(0-0-36)**  
This course places surgical technologist students in the work-based learning environment of a working operating room for four nine-hour shifts each week. During this period, students will function as a member of the surgical team, applying knowledge and skills they have acquired in the previous three terms.  
PREREQUISITES: Admission to the Surgical Technologist Program, completion of SRG 220 with "C+" or better.  
COREQUISITE: SRG 240

**SRG 240 OPERATING ROOM SEMINAR (W-Odd years only) 3(3-0-0)**

This course serves two primary functions: it serves as a forum for discussion of and reflection upon issues that are being encountered by Surgical Technologist students in their clinical externships at area hospitals and provides a means of maintaining cohort identity as the externships drive students into different sites, procedures, and colleagues. The seminar also serves as both a capstone to the program and an introduction to the professional requirements of working as a Surgical Technologist after graduation. Students will participate in weekly seminar discussions, culminating in a final paper that summarizes their clinical externship experience.

PREREQUISITES: Admission to the Surgical Technologist Program, completion of SRG 220 with "C+" or better.

COREQUISITE: SRG 230

**STAT – Statistics**

**STAT 200 STATISTICS (F,W,S) 3(3-0-0)**

A beginning course in statistics for students majoring in fields using measurements and predictions. Topics include organization of data, measures of central tendency and dispersion, probability, types of distributions (binomial, normal, 't' and chi-square), sampling, testing hypotheses, point and interval estimations, regression and correlation.

PREREQUISITE: MATH 130

**TDT – Drafting Technologies**

**TDT 130 CAD I (F,W) 3(3-0-0)**

A first course in the training and use of Computer Aided Drafting and Design software (CAD), focusing primarily on two-dimensional (2D) drawings. The latest version of Autodesk's AutoCAD software is used in this class. Students will generate a variety of drawing types and will gain experience with most AutoCAD features, including printing to a full size plotter.

**TDT 132 CAD III (ADVANCED AUTOCAD) (Variable) 3(3-0-0)**

An advanced course in the training and use of Computer Aided Drafting and Design software (CAD). The primary focus will be on producing two-dimensional (2D) and three-dimensional (3D) drawings. The latest version of Autodesk's AutoCAD software is used in this class. Students will generate a variety of drawing types and will gain experience with most AutoCAD features, including printing to a full size plotter.

PREREQUISITES: TDT 130 or equivalent AutoCAD experience

**TDT 140 ARCHITECTURAL CAD (W) 3(3-0-0)**

A further introduction to AutoCAD software, specializing in the Architectural Desktop module. The basic skills and knowledge acquired in TDT 130 (or equivalent) will be expanded to develop three dimensional (3D) and more specialized drawings. Drawing types may include residential and commercial buildings, industrial facilities and infrastructure work. Further experience in layout, design and printing will be gained. Advising Note: It is recommended that students have the abilities and knowledge of the topics covered in TDT 130 before enrolling in TDT 140.

PREREQUISITE: TDT 130 or AutoCAD experience

**TDT 150 MECHANICAL CAD (F,W,S) 3(3-0-0)**

A further introduction to AutoCAD software, specializing in the Inventor module (formerly Mechanical Desktop). The basic skills and knowledge acquired in TDT 130 (or equivalent) will be expanded to develop three dimensional (3D) and more specialized drawings. Drawing types will include parts and components, assemblies, CNC work and residential and commercial infrastructure. Further experience in layout, design and printing will be gained. Advising Note: It is recommended that students have the abilities and knowledge of the topics covered in TDT 130 before enrolling in TDT 150.

PREREQUISITE: TDT 130 or AutoCAD experience

**TDT 297 SPECIAL TOPICS IN TECHNOLOGY-DRAFTING (Variable) 3(3-0-0)**

Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

## THF- Theatre and Film

**THF 101 SURVEY OF THE THEATRE (F) 3(3-0-0)**  
Survey and appreciation of the different areas of the theatre. Major topics include performance, terminology, acting, improvisation, directing, literature of the theatre, set design, as well as individual and group projects.  
GENERAL EDUCATION DISTRIBUTION AREA: Humanities

**THF 102 ACTING I (W) 3(3-0-0)**  
An exploration and introduction to various acting techniques, theories of acting, script and role analysis, characterization, stage make-up, physical and vocal skills. Students engage in improvisation, pantomime, vocal and physical exercises, relaxation and concentration. Scenes from modern plays are performed in class for analysis and evaluation.

**THF 250 FILM AND LITERATURE (Variable) 3(3-0-0)**  
Introduces students to the similarities and differences between cinematic and literary forms by studying and evaluating the links between various genres of film and various literary texts, such as poetry, the theatre, fairy tales, screenplays, and the novel. Detailed examination of style, narrative, adaptation, techniques, and interpretation in the two art forms in relationship to each other will increase the understanding and appreciation of both.  
PREREQUISITE: ENG 111

**THF 275 CLASSIC CINEMA (Variable) 3(3-0-0)**  
Provides an overview of the techniques, aesthetics, vocabulary, and criticism of the cinema in a historical context. As an introduction to classic cinema, this course will establish a sense of both film history's general outline and film theory's most important issues in an active and useful fashion.  
PREREQUISITE: ENG 111

**THF 276 CONTEMPORARY FILM (F,S) 3(3-0-0)**  
A survey of American film from 1960 to the present. Students will view films of the period and discuss in class and in essays aspects of direction, theme, content, characterization, cinematography, and other issues associated with film.  
PREREQUISITE: ENG 111

**THF 280 THE DIRECTOR'S SERIES (F) 3(3-0-0)**  
An auteurist approach to the works of an individual director or a sampling of major directors, and will consider both the manner in which these directors' personalities are thematically and stylistically expressed in their films, and how their films represent major developments or movements in film aesthetics and history.  
PREREQUISITE: ENG 111

**THF 297 SPECIAL TOPICS IN THEATRE & FILM (Variable) 3(3-0-0)**  
Special Topics courses provide opportunities for focused study with full-time or adjunct instructors teaching in their areas of expertise.

## VNW – Viticulture

**VNW 110 INTRODUCTION TO VITICULTURE (F) 3(3-0-0)**  
Introduces students to viticulture in general and to current practices for establishing a commercial vineyard. Topics include grape growing, operations for northern Michigan, winemaking/enology, legal and business aspects of the industry, packaging design and marketing.

**VNW 120 INTRODUCTION TO ENOLOGY (W) 2(2-0-0)**  
Provides an overview of all technical aspects of wine making, including pre-fermentation decisions, the management of the fermentation processes, post-fermentation requirements, equipment and testing. The course puts an emphasis on the practical aspects of winemaking.



**VNW 285 VITICULTURE INTERNSHIP I (Variable) 1-2(0-0-4-8)**

Students in this course will be placed in at a working vineyard or wine-making facility, so that they can experience first hand the work and steps involved in producing product and services. Specific duties and topics of learning will depend on the workplace. Students will participate in the work environment at an appropriate introductory level, which will depend on individual student ability and experience. Students are not responsible for goals of the organization. In addition to specific requirements related to that experience, students are required to complete written assessments and evaluation of the experience as it relates to the Viticulture program. Students should meet with an advisor or the associate dean at least six weeks before the beginning of the semester during which the internship will be held.  
PREREQUISITE: VNW 110 and VNW 120.

**VNW 290 VITICULTURE INTERNSHIP II (Variable) 1-2(0-0-4-8)**

Students in this course will be placed in at a working vineyard or wine-making facility, so that they can experience first hand the work and steps involved in producing product and services. Specific duties and topics of learning will depend on the workplace. Students will participate in the work environment at an intermediate level, which will depend on individual student ability and experience. Students are not responsible for goals of the organization. In addition to specific requirements related to that experience, students are required to complete written assessments and evaluation of the experience as it relates to the Viticulture program. Students should meet with an advisor or the associate dean at least six weeks before the beginning of the semester during which the internship will be held.  
PREREQUISITE: VNW 110, VNW 120, AND VNW 285.

# Campus Map

## 1. Administration/Classroom Building

The Administration/Classroom Building houses classrooms, faculty offices, academic computer labs, administrative offices, business office, regional offices for several four-year colleges and universities, the President's office, Marketing and NCMC Foundation and alumni offices.

## 2. Technology Building

The Technology Building houses labs and classrooms for computer and technical training in areas such as AutoCAD, computer technologies, electronics and computer network technologies.

## 3. Jack and Dorothy Harris Health Education and Science Center

Classrooms, labs and faculty offices for biology, chemistry, science, physics, astronomy, nursing and allied health are housed in the Jack and Dorothy Harris Health Education and Science Center. An attached greenhouse is used for experiments and classroom activities.

## 4. Student and Community Resource Center (SCRC)

North Central's 71,000 square-foot SCRC has a multipurpose gymnasium designed for a variety of recreation and physical education activities. A walking track, 1/9 mile in length, is available to the public at no charge. Locker rooms with showers are open to anyone using the facilities. Upstairs, an exercise facility equipped with weight training and exercise equipment is available for individuals enrolled in fitness classes.

The SCRC also houses the College Store, Learning Support Services, open computer labs, a tutoring center, assessment and testing center and study areas.

## College Store

The College Store, located in the Student and Community Resource Center, has books, student supplies, clothing, and gift items for sale. Students can purchase textbooks online through the store's website, [collegestore.ncmich.edu](http://collegestore.ncmich.edu)

## 5. Residence Hall

On-campus housing is available for up to 148 students. Each room in the residence hall has a cable TV hookup and Internet access. The lobby has a big-screen TV, fireplace and a staffed reception desk. Other amenities include ping pong tables, weight room, kitchenettes and pool tables.

## 6. Student Center

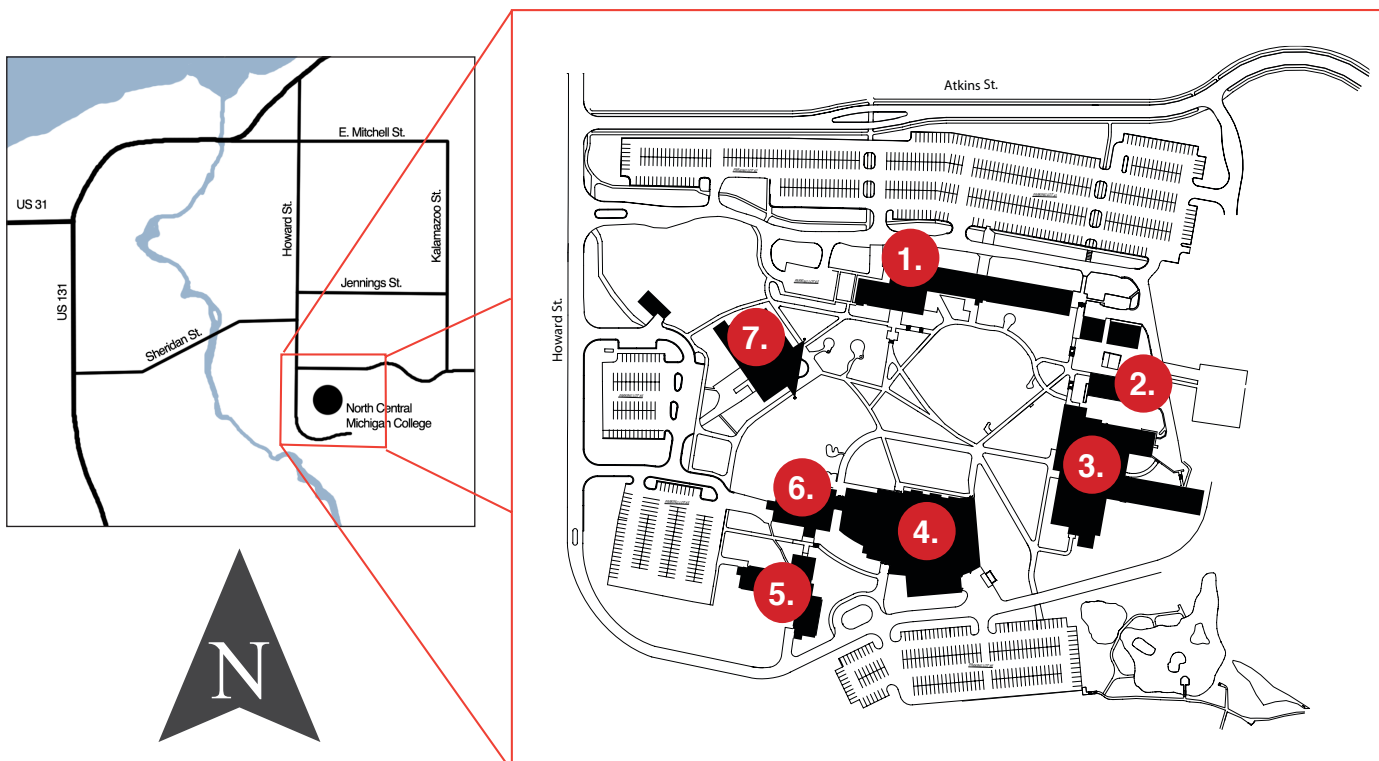
All student services functions, including admissions, financial aid, registration, counseling and student records, are located in the lower level of the Student Center.

The Cafeteria is located in the upper level. North Central offers food service for students, faculty, staff and guests throughout the school year.

## 7. Library

North Central has the largest research library in the area with high-speed Internet access, a wide variety of on-line resources, in-house databases, electronic journals, magazines, newspapers, books and the U.S. government documents repository for the 1<sup>st</sup> Congressional District of Michigan.

The Library offers a wide variety of technology services for students, faculty, staff and the community. They include traditional and on-line library services, wireless Internet access, support for on-line courses facilitated by North Central faculty, Smart Classroom technology used by North Central faculty and students. The Library also has meeting rooms for student use.



Discover  
[www.ncmich.edu](http://www.ncmich.edu)

North Central-Main Campus  
1515 Howard Street  
Petoskey, MI 49770  
231-348-6600 or 888.298.6605

North Central-Gaylord  
80 Livingston Blvd.  
Gaylord, Michigan 49735  
989-705-3775

North Central-Cheboygan  
504 Division Street  
Cheboygan, Michigan 49721  
231-597-0322