

College of Arts and Sciences

The College of Arts and Sciences prepares students to think, read, and write critically, to understand language and literature, philosophy, music, art, communication, drama, English, economics, geography, history, math, Native American studies, political science, the sciences, and sociology. The liberal arts curricula of this department present the historical and creative foundation of cultural heritage.

Advising Information

Students are encouraged to meet with their advisors at the beginning of each semester to confirm their plan of study and make any necessary adjustments. **Please note** that the suggested plan of study listed with each degree program is merely a sample schedule. Due to course scheduling changes, staff assignments, and other conflicts, it may not be possible to follow the suggested plans exactly. Meeting with an advisor before registering for classes each semester will allow students to plan schedules that will meet their needs and assist them in completing requirements in an efficient manner.

Humanities and Social Science Core

Students pursuing Bachelor of Arts degrees in Communication, Community Service, Graphic Design, or Liberal Studies, or Bachelor of Science in Education with majors in English or Broadfield Social Sciences must complete the Humanities and Social Sciences core in addition to other requirements. The courses required in the Humanities and Social Science core will satisfy the distribution requirements in Area A and 3 credits in Area B.

ART 361 or ART 362 or DRMA 123 or MUS 101	3 credits
ENGL 114 or ENGL 214	3 credits
Foreign or Native American Language	(same language) 6 credits
HIST 142 or SOSOC 201	3 credits

Biology

The program provides a comprehensive background in the life sciences, with a varied emphasis that includes both biochemistry and molecular biology. This integration provides students with a foundation for a variety of careers in public, private, government, and industrial sectors.

Communication

Communication is the branch of the social and behavioral sciences concerned directly with human interaction. Courses in communication examine the nature and role of messages, relational interaction, and effectiveness of communication within and among individuals, small groups, organizations, and societies. This degree focuses on preparation for careers in sales, public relations, speech writing, negotiating, or administration.

Community Service

The Community Service degree is designed to prepare students for careers in not-for-profit organizations and certain types of government service. The program has a strong foundation in social sciences and communication and is not intended for those interested in social work, but rather for those interested in community development.

Graphic Design

A solid fine arts foundation provides the basis for Graphic Design program offerings that are geared toward commercial art. The curriculum, which provides hands-on computer application for both print and electronic media, provides students with the opportunity to be technicians as well as artists.

College of Arts & Sciences Programs

Bachelor of Arts degrees
Communication
Community Service
Graphic Design
Liberal Studies

Bachelor of Science degrees
Biology
Water Quality Technology:
Environmental Health

Associate of Applied Science degrees
Graphic Design
Water Quality Technology:
Environmental Health

Associate of Arts degree

Minors
Biology
Communication
Community Service
Native American Studies

**College of Arts & Sciences
Faculty**

Professors

Robert Christeck
Douglas DeLong
Stephen Lockwood
Reno Parker
Will Rawn, Chair/Dean
John Snider
William Thackeray
Janice Wiberg

Associate Professors

James Edwards
Brian Gilmartin
Steve Hesske
Carol Reifschneider
Vaughn Rundquist
Mark Seiffert
Virginia Sluiter
Joel Soiseth
William Swartz

Assistant Professors

Monte Bawden
Gregory Hester

Liberal Studies

The Liberal studies program is designed for students who want a liberal education, with an emphasis in the humanities and social sciences. This opportunity permits students to work in a combination of disciplines and is not intended for students who are undecided about a major.

Water Quality Technology

Northern's Water Quality technology programs offer unique training for individuals interested in the water quality field. Apart from water treatment, other professional career options are available in the environmental and ecological areas with various private, public, state and federal entities.

Montana Environmental Training Center (METC)

(406) 454-2728

www.msun.edu/stuaffairs/grants/metc

The Montana Environmental Training Center (METC) is an organization affiliated with Montana State University-Northern that seeks to develop and implement effective training and technical guidance for water, wastewater, environmental, and public health professionals throughout the state. The goals of this Center are to preserve the public investment in the state's water and wastewater systems, to protect the quality of Montana water, and to insure the health of the state's citizens.

In order to meet these goals, METC, guided by steering and advisory committees, assesses training needs, offers a variety of seminars and training sessions, and serves as an information center for resources relating to water quality management.

Teaching Majors and Minors

The College of Arts and Sciences in conjunction with the College of Education offers several teaching majors and minors. Teaching majors in the Arts and Sciences include English, general science, and social sciences. Arts and Sciences teaching minors are offered in art and English. Please see the College of Education section for these program listings and requirements.

Associate of Arts Degree

General Education Core Requirements12-13

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Required Courses:

Area D Gen Ed Dist	6
Cultural Diversity Selective from Transferable Core.....	3
Electives ..	18
ENGL 112 Written Communication I.....	3
Fine Arts Selective from Transferable Core.....	3
History Selective from Transferable Core.....	3
Humanities Selective from Transferable Core	3
Natural Sciences Selective from Transferable Core.....	6-8
Social Sciences Selective from Transferable Core.....	3

Total minimum credits required for degree60-63

This is a degree designed for students who expect to complete a Bachelor's degree at MSU-Northern but are undecided on a major, or who wish to complete their general education requirements at MSU-Northern before transferring to another institution to complete the remaining requirements for a Bachelor's degree. Completion of the Associate of Arts degree at Northern satisfies all Bachelor degree general education requirements throughout the Montana University system.

The Associate of Arts degree requires 15-18 credit hours of study in designated general education core courses, and 30 credits of general education distribution requirement courses, incorporating MSU-Northern's Transferable General Education Core (a curriculum recognized as transferable by all units of the Montana University system). The remaining 14-15 credit hours are undesignated electives. Students enrolled in the Associate of Arts degree who plan to transfer to a Bachelor's degree program should contact the office of the Dean of Arts and Sciences early in their first semester for assistance in choosing selectives from the Transferable Core and electives to support their future plans for study.

SUGGESTED PLAN OF STUDY

Associate of Arts Degree

Freshman year	F	S
ENGL 111	3	
CIS 110	3	
Cultural Div Selective	3	
Humanities Selective	3	
Social Sci Selective	3	
Area D Gen Ed Dis Req		3
ENGL 112		3
MATH 110		3-4
OR		
MATH 112		
Natural Sci Selective		3-4
SPCH 141		
OR		
SPCH 142		3
Total	15	15-17

Sophomore year

Area D Gen Ed Dis Req	3	
Electives	6	
Fine Arts Selective	3	
History Selective	3	
Electives		12
Natural Sci Selective		3-4
Total	15	15-16

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree Major in Biology

Freshman year	F	S
BIOL 140	4	
BIOL 141	1	
CHEM 121	3	
CHEM 123	2	
ENGL 111	3	
Dist Req Area A	3	
CHEM 122		3
CHEM 124		2
CIS 110		3
ENGL 112		3
MATH 110		4
OR		
MATH 112		3
SPCH 141		3
OR		
SPCH 142		3
Total	16	17-18

Sophomore year	F	S
BIOL 221	3	
BIOL 222	2	
MATH 116	3	
PHYS 231	3	
PHYS 234	2	
Dist Req Area A	3	
PHYS 232		3
PHYS 235		2
Dist Req Area B		3
Dist Req Area D		3
Selective		4
Total	16	15

Junior year	F	S
BIOL 314	4	
BIOL 348	3	
BIOL 350	2	
CHEM 341	3	
CHEM 343	2	
NSCI 201	3	
Dist Req Area D		3
Selectives		8
Electives		3
Total	17	14

Senior year	F	S
BIOL 468	4	
NSCI 450	3	
Electives	3	
Dist Req Area B		3
Electives		12
Total	10	15

Bachelor of Science Degree Major in Biology

No Minor Required

General Education Core Requirements 15-16
Credits
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements..... 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Common Science Core (35 credits):

BIOL 140 Cell Biology.....	4
BIOL 141 Cell Biology Lab.....	1
BIOL 221 Botany I.....	3
BIOL 222 Botany I Lab.....	2
BIOL 348 Zoology.....	3
BIOL 350 Zoology Lab.....	2
CHEM 121 General Inorganic Chemistry I.....	3
CHEM 122 General Inorganic Chemistry II.....	3
CHEM 123 General Inorganic Chemistry I Lab.....	2
CHEM 124 General Inorganic Chemistry II Lab.....	2
PHYS 231 Fundamentals of Physics I.....	3
PHYS 232 Fundamentals of Physics II.....	3
PHYS 234 Fundamentals of Physics I Lab.....	2
PHYS 235 Fundamentals of Physics II Lab.....	2

Required Program Course (22 credits):

BIOL 314 General Ecology.....	4
BIOL 468 Molecular Biology & Genetics.....	4
CHEM 341 Organic Chemistry I.....	3
CHEM 342 Organic Chemistry I Lab.....	2
MATH 116 Statistics.....	3
NSCI 201 Essence of Science.....	3
NSCI 450 Undergraduate Research I.....	3

Program Selectives (12 credits):

BIOL 322 Botany II.....	4
BIOL 324 Entomology.....	3
BIOL 334 Ornithology.....	3
BIOL 363 Lentic Ecology.....	3
BIOL 364 Stream Ecology.....	3
BIOL 455 Phycology.....	3
ESCI 310 Introduction to Paleontology.....	3

Total minimum credits required for degree 120

PLEASE NOTE: Students enrolling in this program may pay between \$5 - \$40/semester in course fees. Those fees are in addition to tuition and other fees.

Minor in Biology

Required Courses

BIOL 140 Cell Biology	4
BIOL 141 Cell Biology Lab.....	1
BIOL 217 Microbiology.....	4
BIOL 221 Botany I	3
BIOL 222 Botany I Lab	2
BIOL 322 Botany II	4
BIOL 348 Zoology	3
BIOL 350 Zoology Lab.....	2
BIOL 407 Freshwater Biology	3
NSCI 201 Essence of Science	3

Total minimum credits required for minor 29

PLEASE NOTE: Students enrolling in this program may pay between \$5 - \$40/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Bachelor of Arts Degree Major in Communication

Freshman year	F	S
ART 361	3	
OR		
ART 362	3	
OR		
DRMA 123	3	
OR		
MUS 101	3	
CIS 110	3	
ENGL 111	3	
SPCH 141	3	
Language	3	
ENGL 112		3
HIST 142		3
OR		
SOSC 201		3
MATH 110		4
Dist Req Area B		3
Dist Req Area C		3
Total	15	16
Sophomore year		
Dist Req Area B	3	
Dist Req Area C	3	
Language	3-4	
Minor	3	
SPCH 142	3	
ENGL 114		3
OR		
ENGL 214		3
Language		3-4
BUS 250		3
OR		
MATH 116		3
SOC 240		3
SPCH 240		3
Total	15-16	15-16
Junior year		
Dist Req Area C	3	
ENGL 338	3	
Minor	3	
Selective	3	
SPCH 310	3	
Dist Req Area D		3
Elective		3
Minor		6
SPCH 320		3
Total	15	15
Senior year		
Minor	11	
Selective	3	
Elective		3
Minor		6
Selective		3
SPCH 485		3
Total	14	15

Bachelor of Arts Degree Major in Communication Minor Required

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements..... 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses	
ART 361 Art History of Western Civilization I.....	3
OR	
ART 362 Art History of Western Civilization II	3
OR	
DRMA 123 Introduction to Theatre.....	3
OR	
MUS 101 Introduction to Music History	3
ENGL 114 Introduction to Literature.....	3
OR	
ENGL 214 Introduction to World Literature.....	3
ENGL 338 Public Relations Writing	3
HIST 142 History of Civilization II.....	3
OR	
SOSC 201 Introduction to Social Science.....	3
Language (French, Spanish, German, or Native American)	6
BUS 250 Business Statistics	3
OR	
MATH 116 Applied Statistics	3
SOC 240 Social Psychology	3
SPCH 142 Interpersonal Communication	3
SPCH 240 Small Group/Organizational Communication.....	3
SPCH 310 Organizational Communication	3
SPCH 320 Communication Theory	3
SPCH 485 Special Topics in Communication	3

Choose 9 selective credits from the following list.

ART 362 Art History of Western Civilization II	3
BUS 300 Management in Organizations.....	3
BUS 332 Human Resource Management.....	3
CMSV 302 Community Service Research.....	3
CMSV 310 Grants.....	3
ENGL 366 Technical Writing and Editing.....	3
ENGL 368 Writing for Grants.....	3
NAS 310 Native Cultures of North America	3
PSYC 315 Psychology of Life Adjustment.....	3
PSYC 350 Personality.....	3
SOC 315 Race, Gender, & Ethnic Relations.....	3

Total minimum credits required for degree 120

Minor in Communication

Required Courses

ENGL 338 Public Relations Writing	3
SOC 240 Social Psychology	3
SPCH 141 Fundamentals of Speech.....	3
SPCH 142 Interpersonal Communication	3
SPCH 240 Small Group/Organizational Theory	3
SPCH 310 Organizational Communication	3
SPCH 320 Communication Theory.....	3
SPCH 485 Special Topics in Communication	3
Total credits required for minor	24

SUGGESTED PLAN OF STUDY

Bachelor of Arts Degree Major in Community Service

	F	S
Freshman year		
CIS 110	3	
CMSV 101	3	
ENGL 111	3	
ENGL 114	3	
OR		
ENGL 214	3	
SPCH 141	3	
OR		
SPCH 142	3	
ENGL 112		3
HIST 142		3
OR		
SOSC 201		3
MATH 110		4
SPCH 240		3
Dist Req Area A		3
Total	15	16
Sophomore year		
CMSV 201	4	
Language	3-4	
Dist Req Area C	3	
Minor	3	
CMSV 201		4
Language		3-4
Dist Req Area D		3
ACCT 255		3
Minor		3
Total	13-14	16-17
Junior year		
CMSV 301	3	
CMSV 310	3	
Dist Req Area C	3	
Minor	3	
ART 361		3
OR		
ART 362		3
OR		
DRMA 123		3
OR		
MUS 101		3
CMSV 302		3
SPCH 310		3
Elective		3
Minor		3
Total	12	15
Senior year		
ENGL 366	3	
SBM 402	3	
SPCH 485	3	
Minor	6	
Elective	3	
CMSV 401		3
Minor		6
Elective		5
Total	18	14

Bachelor of Arts Degree Major in Community Service

Minor Required

Credits

General Education Core Requirements 15-16

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24

Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ACCT 255 Governmental and Non-Profit Accounting 3
ART 361 Art History of Western Civilization I 3

OR

ART 362 Art History of Western Civilization II 3

OR

DRMA 123 Introduction to Theatre 3

OR

MUS 101 Introduction to Music History 3

CMSV 101 Introduction to Community Service 3

CMSV 201 Community Service Practicum 6-8

CMSV 301 Community Service Readings 3

CMSV 302 Community Service Research 3

CMSV 310 Grants 3

CMSV 401 Community Service Seminar 3

ENGL 114 Introduction to Literature 3

OR

ENGL 214 Introduction to World Literature 3

ENGL 366 Technical Writing and Editing 3

HIST 142 History of Civilization II 3

OR

SOSC 201 Introduction to Social Sciences 3

Language (French, Spanish, German, or Native American) 8

SBM 402 Small Business Management 3

SPCH 240 Small Group/Organizational Communication 3

SPCH 310 Organizational Communication 3

SPCH 485 Special Topics in Communication 3

Students are encouraged to take elective courses that are pertinent to community service such as ENGL 338 Public Relations Writing, ECON 241 Microeconomics, ENGL 368 Writing for Grants, Psychology, and Sociology.

NOTE: In addition to the coursework listed above, community service majors are strongly advised to complete a concentrated program of study in some speciality area. The speciality areas will permit students to complete coursework that could prepare them for careers in communication, non-profit administration, community health and wellness, social work or tribal leadership and administration. Community service majors should work with their faculty advisor to select the appropriate classes.

Total minimum credits required for degree 120

Minor in Community Service

Required Courses

ACCT 255 Governmental and Non-Profit Accounting	3
CMSV 101 Introduction to Community Service.....	3
PSC 101 Introduction to Psychology	3
SOC 101 Introduction to Sociology	3
SOSC 201 Introduction to the Social Sciences	3

Choose three selective credits from the three of the four following areas:

SOC 240 Social Psychology	3
SOC 315 Race, Ethnic and Gender Relations	3

OR

PSYC 205 Human Growth & Development	3
PSYC 360 Personality.....	3

OR

SPCH 240 Small Group/Organizational Communication	3
SPCH 320 Communication Theory.....	3
SPCH 485 Special Topics in Communication	3

OR

NAS 350 Federal Indian Law.....	3
POL 134 American Government.....	3
POL 201 State and Local Government.....	3

Total credits required for minor 24

SUGGESTED PLAN OF STUDY

Bachelor of Arts Degree Major in Graphic Design

Freshman year	F	S
ART 120	3	
ART 150	3	
CIS 112	3	
ENGL 111	3	
SPCH 141	3	
OR		
SPCH 142	3	
ART 151		3
ENGL 112		3
HIST 142		3
OR		
SOSC 201		3
MATH 110		4
Electives		3
Total	15	16
Sophomore year		
ART 254	3	
OR		
ART 256	3	
ENGL 114	3	
OR		
ENGL 214	3	
GDNS 220	3	
GDSN 231	3	
GDSN 270	3	
Electives	3	
GDSN 232		3
GDSN 240		3
GDSN 250		3
Electives		3
Dist Req Area C		3
Total	18	15
Junior year		
Language	4	
Dist Req Area C	3	
Elective	3	
Electives (300-400 level)	6	
Language		4
GDSN 320		3
GDSN 340		3
GDSN 350		3
GDSN 370		3
Total	16	16
Senior year		
ART 361	3	
OR		
ART 362	3	
Dist Req Area B	3	
Electives (300-400 level)	6	
GDSN 450		4
Electives (300-400 Level)		6
Electives		2
Total	12	12

Bachelor of Arts Degree Major in Graphic Design

Minor Required

Credits

General Education Core Requirements..... 15-16

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements24

Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ART 120 Drawing I.....	3
ART 150 Two-Dimensional Design I.....	3
ART 151 Two-Dimensional Design II.....	3
ART 254 Painting I.....	3

OR

ART 256 Watercolor Painting I.....	3
ART 361 Art History of Western Civilization I.....	3

OR

ART 362 Art History of Western Civilization II.....	3
ENGL 114 Introduction to Literature.....	3

OR

ENGL 214 Introduction to World Literature.....	3
GDSN 220 Illustration I.....	3
GDSN 231 Graphic Design Applications.....	3
GDSN 232 Electronic Design Applications.....	3
GDSN 240 Electronic Design I.....	3
GDSN 250 Graphic Design I.....	3
GDSN 270 Introduction to Photography.....	3
GDSN 320 Illustration II.....	3
GDSN 340 Electronic Design II.....	3
GDSN 350 Graphic Design II.....	3
GDSN 370 Photography II.....	3
GDSN 450 Graphic Design III.....	4
HIST 142 History of Civilization II.....	3

OR

SOSC 201 Introduction to Social Science.....	3
Language (French, Spanish, German, or Native American).....	8

Total minimum credits required for degree.....120

PLEASE NOTE: Students enrolling in this program may pay between \$20 - \$40/semester in course fees. Those fees are in addition to tuition and other fees.

Associate of Applied Science Degree Major in Graphic Design

General Education Core Requirements 12-13 **Credits**

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6

Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ART 100 Introduction to Art 3
 ART 120 Drawing I 3
 ART 150 Two-Dimensional Design I 3
 ART 151 Two-Dimensional Design II 3
 ART 254 Painting I 3

OR

ART 256 Watercolor Painting I 3
 GDSN 220 Illustration I 3
 GDSN 231 Graphic Design Applications 3
 GDSN 232 Electronic Design Applications 3
 GDSN 240 Electronic Design I 3
 GDSN 250 Graphic Design I 3
 GDSN 270 Introduction to Photography 3
 Electives 15

Total minimum credits required for degree 67

PLEASE NOTE: Students enrolling in this program may pay between \$20 - \$40/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Associate of Applied Science
Degree
Major in Graphic Design

Freshman year	F	S
ART 120	3	
ART 150	3	
CIS 112	3	
GDSN 231	3	
SPCH 141	3	
OR		
SPCH 142	3	
Electives	3	
ART 100		3
ART 151		3
ENGL 111		3
Elective		6
Total	18	15

Sophomore year	F	S
ART 254	3	
OR		
ART 256	3	
GDSN 220	3	
GDSN 232	3	
GDSN 250	3	
GDSN 270	3	
Dist Req (Area B)	3	
Elective		6
GDSN 240		3
MATH 110		4
Dist Req (Area C)		3
Total	18	16

SUGGESTED PLAN OF STUDY

Bachelor of Arts Degree Major in Liberal Studies

Freshman year	F	S
ENGL 111	3	
ENGL 114	3	
OR		
ENGL 214	3	
MATH 110	4	
Major Course	3	
CIS 110		3
ENGL 112		3
HIST 142		3
OR		
SOSC 201		3
SPCH 141		3
OR		
SPCH 142		3
Major Course		3
Total	13	15

Sophomore year		
HUM 201	3	
Language	3-4	
Dist Req Area C	3	
Major Course	3	
Minor	3	
Language		3-4
Dist Req Area D		3
Major Courses		6
Minor		3
Total	15-16	15-16

Junior year		
PHIL 210	3	
Dist Req Area C	3	
Major Course	3	
Minor	3	
Elective	3	
ART 361		3
OR		
ART 362		3
OR		
DRMA 123		3
OR		
MUS 101		3
Major Courses		6
Minor		3
Elective		3
Total	15	15

Senior year		
Major Courses	6	
Dist Req Area D	3	
Electives	6	
Minor	3	
Major Course		3
Minor		6
Electives		5
Total	18	14

Bachelor of Arts Degree Major in Liberal Studies Minor Required

Credits

Fundamentals Skill Requirements..... 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements..... 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses	
ART 361 Art History of Western Civilization I.....	3
OR	
ART 362 Art History of Western Civilization II	3
OR	
DRMA 123 Introduction to Theatre.....	3
OR	
MUS 101 Introduction to Music History	3
ENGL 114 Introduction to Literature.....	3
OR	
ENGL 214 Introduction to World Literature	3
HUM 201 Introduction to the Humanities.....	3
PHIL 210 Ethics	3
HIST 142 History of Civilization II.....	3
OR	
SOSC 201 Introduction to Social Science.....	3
Language (French, Spanish, German, or Native American)	6-8

Choose 12 credits from two of the following major areas (100-200 level).

Economics, Geography, Social Sciences, Political Science	6
Art, Drama, English, Music, Native American Studies, Speech.....	6

Choose 15 credits from two of the following major areas (300-400 level).

Art, Drama, Music	15
English	15
History, Sociology, Political Science, Economics, Native American Studies, Speech.....	15

Total minimum credits required for degree..... 120

Minor in Native American Studies

Required Courses	
HIST 310 American West.....	3
NAS 220 Introduction to Ethnic Indian Studies.....	3
NAS 310 Native Cultures of North America	3
NAS 330 American Indian Oral Tradition	3
NAS 331 Literature by and About Native Americans	3
NAS 350 Federal Indian Law	3
NAS 364 History of American Indians.....	3

Total credits required for minor.....21

Bachelor of Science Degree Major in Water Quality Technology: Environmental Health

No Minor Required

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

BIOL 110 Introduction to Environmental Health	3
BIOL 217 Microbiology	4
CHEM 121 General Inorganic Chemistry I.....	3
CHEM 123 General Inorganic Chemistry I Lab.....	2
GEN 301 Society and Technology.....	3
HPE 234 First Aid and CPR.....	2
MATH 116 Applied Statistics.....	3
OR	
MATH 125 Trigonometry.....	2
TSCI 110 Introduction to Water and Wastewater	4
TSCI 205 Distribution Systems.....	3
TSCI 206 Applied Water Hydraulics	3
TSCI 230 Introduction to Groundwater	3
TSCI 231 Wastewater Processes.....	3
TSCI 232 Wastewater Processes Lab.....	2
TSCI 233 Water Treatment Processes.....	3
TSCI 234 Water Treatment Processes Lab.....	2
TSCI 279 Cooperative Education	6
TSCI 415 Pollution Prevention.....	3
NSCI 450 Undergraduate Research.....	3

Select one of the following two tracks.

Environmental Track

Required Courses

BIOL 151 Essentials of Biology	4
TSCI 320 Environmental Analytical Techniques.....	2

Choose 12 credits from the following list of selectives.

BIOL 314 General Ecology	4
BIOL 322 Botany II	4
BIOL 348 Zoology.....	3
BIOL 350 Zoology Laboratory.....	2
BIOL 363 Lentic Ecology.....	3
BIOL 364 Stream Ecology.....	3
BIOL 407 Freshwater Biology	3
ESCI 315 General Hydrology.....	3

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Water Quality
Tech: Environmental Health

Freshman year	F	S
BIOL 110	3	
CHEM 121	3	
CHEM 123	2	
ENGL 111	3	
TSCI 110	4	
ENGL 112		3
HPE 234		2
MATH 112		3
SPCH 141		3
OR		
SPCH 142		3
Track Requirement		4-5
Total	15	15-16

TSCI 279 to be taken summer semester.

Sophomore year		
CIS 110	3	
MATH 116	3	
OR		
MATH 125	2	
TSCI 205	3	
TSCI 231	3	
TSCI 232	2	
BIOL 217		4
TSCI 206		3
TSCI 230		2
TSCI 233		3
TSCI 234		2
Total	13-14	14

Junior year		
GEN 301	3	
Dist Req Area A	3	
Electives	7	
Track Requirement	2-3	
TSCI 415		3
Track Selective		3
Dist Req Area D		4
Dist Req Area B		3
Total	15-16	13

Senior year		
NSCI 450	3	
TSCI 420	3	
Track Selective	3	
Dist Req Area B	3	
Track Selectives		4-6
Dist Req Area A		3
Electives		6-7
Total	12	13-16

Analytical Track

Required Courses

CHEM 112 Physiological Chemistry	3
CHEM 122 General Inorganic Chemistry II	3
CHEM 124 General Inorganic Chemistry II Lab	2

Choose 10 credits from the following list of selectives.

CHEM 311 Quantitative Analysis	4
CHEM 312 Quantitative and Instrumental Analysis.....	4
CHEM 351 Instrumental Analysis	3
CHEM 356 Physical Chemistry	3
MATH 133 Introduction to Calculus.....	3
PHYS 231 Fundamentals of Physics I	4
TSCI 320 Environmental Analytical Techniques.....	2

***CHEM 111 General Chemistry will not substitute for CHEM 121/123.**

***Of the general education and selective courses, 11 to 22 of these credits will have to be earned via 300/400-level classes in order to meet the upper division level credit requirement for a bachelor's degree. The exact number will depend on the nature of the track selectives. See your advisor for more details.**

Total minimum credits required for degree 120

Associate of Applied Science Degree Major in Water Quality Technology: Environmental Health

Credits

General Education Core Requirements12-13

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements..... 6

Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

BIOL 110 Introduction to Environmental Health	3
TSCI 110 Intro to Water and Wastewater	4
TSCI 279 Cooperative Education	6
CHEM 111 General Chemistry	3
TSCI 230 Introduction to Groundwater	3
TSCI 205 Distribution Systems.....	3
TSCI 231 Wastewater Processes.....	3
TSCI 232 Wastewater Processes Lab.....	2
TSCI 206 Applied Water Hydraulics	3
BIOL 217 Microbiology	4
TSCI 233 Water Treatment Processes.....	3
HPE 234 First Aid and CPR	2
TSCI 234 Water Treatment Processes Lab.....	2

***General Education Core MATH 112 College Algebra is required for the bachelor's degree.**

***CHEM 121/123 General Inorganic Chemistry I and Laboratory, which is required for the bachelor's degree may be substituted for CHEM 111.**

Total minimum required credits for degree 60

SUGGESTED PLAN OF STUDY

Associate of Applied Science
Degree
Major in Water Quality
Tech: Environmental Health

Freshman year	F	S
BIOL 110	3	
CIS 110	3	
ENGL 111	3	
TSCI 110	4	
CHEM 111		3
MATH 110		4
OR		
MATH 112		3
AND		
Elective		1
SPCH 141		3
OR		
SPCH 142		3
TSCI 230		3
Total	13	14

TSCI 279 to be taken during the summer.

Sophomore year	F	S
TSCI 205	3	
TSCI 231	3	
TSCI 232	2	
Dist Req Area A or B	3	
Elective	3	
BIOL 217		4
HPE 234		2
TSCI 206		3
TSCI 233		3
TSCI 234		2
Total	14	14