



Northern New Mexico College

Bachelor of Science ENVIRONMENTAL SCIENCE

In order to be considered for acceptance to this major, you must first have been admitted to Northern, satisfying all requirements for regular status. Second, you must meet the following departmental requirements: 1) have earned a cumulative grade point average of 2.50 for courses to be accepted into the program, which includes up to 35 credits in general education; 2) completion of 24 credits of the GECC Laboratory Science requirements; 3) completion of ES 112, ES 112L, and ES 113; and 4) submission of a personal essay and two letters of recommendation to the Environmental Science program director.

GENERAL EDUCATION (58 crs)

COMPLETED **Planned Timeline**
(By Semester)

Area I: Communications (9 crs)

ENG 111 English Composition I (3)

Pre-requisites: ENG 109 or adequate score on the Course Placement Evaluation

SPCH 130 Public Speaking (3)

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

Choose one of the following two courses:

ENG 112 English Composition II (3)

Pre-requisite: ENG 111

ENG 116 Technical Writing (3)

Pre-requisite: ENG 111

Area II: Mathematics (10 crs)

MATH 145 Introduction to Probability and Statistics (3)

Pre-requisite: MATH 130

MATH 150 College Algebra (3)

Pre-requisite: MATH 130

MATH 162 Calculus I (4)

Pre-requisites: MATH 150 and MATH 155 or MATH 160

Area III: Laboratory Sciences (24 crs)

BIOL 202/L Principles of Genetics with lab (4)

Pre-requisites: BIOL 201 and 201L

BIOL 203/L Ecology and Evolution with lab (4)

Pre-requisites: BIOL 202 and MATH 130

BIOL 210/L Microbiology with lab (4)

Pre-requisite: CHEM 110 and 110L

CHEM 121/L General Chemistry I with lab (4)

Pre-requisite: MATH 130

CHEM 210/L Integrated Organic & Biochemistry with lab (4)

Pre-requisite: CHEM 110/L or CHEM 121/L

Choose one of the following:

ES 201L Environmental Physical and Chemical Processes with lab (4)

Pre-requisites: BIOL 201/L and CHEM 121/L

or

CHEM 122/L General Chemistry II with lab (4)

Area IV: Social/Behavioral Sciences (6-9 crs)*

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

You must select courses from *at least two different discipline areas* from the following list:

ANTH 101/L Physical Anthropology w/Lab (4)

ANTH 102 Intro to Social & Cultural Anthropology (3) (Fall)

ANTH 111 Language and Culture (3)

ANTH 207 Cultures of New Mexico (3)

ANTH 110 Indian Culture of the Southwest

ECON 200 Macroeconomics (3)

ECON 201 Microeconomics (3)

GEOG 111 World Geography (3)

PSCI 110 The Political World (3)

- PSCI 120 Contemporary Political Issues (3)
- PSCI 200 American Politics (3)
- PSCI 210 State and Local Government (3)
- PSCI 212 The American Presidency (3)
- PSY 105 General Psychology (3)
- PSY 210 Theories of Personality (3)
- PSY 229 Adolescent Psychology (3)
- PSY 230 Psychology of Adjustment (3)
- PSY 232 Abnormal Behavior (3)
- PSY 270 Social Psychology (3)
- PSY 290 Developmental Psychology (3)
- SOC 101 Introduction to Sociology (3)
- SOC 213 Deviant Behavior (3)
- SOC 216 Ethnic and Intercultural Relations (3)
- SOC 220 Social Problems (3)
- SOC 225 Marriage and the Family (3)

* Plus, topic courses with student advisor's approval

Humanities and Fine Arts (6-9 crs)*

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

- PHIL 220 Ethics (3)

Elective (3-6) _____

You must select courses from one other discipline area from the following::

- ART 105 Introduction to Art (3)
- ART 107 History of Art I (3)
- ART 208 History of NM Art & Architecture (3)
- ART 211 History of Art II (3)
- DANC 240 Dance Appreciation (3)
- ENG 270 Children's Literature (3)
- Pre-requisite ENG 111*
- ENG 262 Literature of the Southwest (3)
- Pre-requisite ENG 112*
- ENG 265 Native American Literature 1 (3)
- Pre-requisite ENG 111*
- ENG 266 Native American Literature II (3)
- Pre-requisite: ENG 111*
- ENG 280 Readings in Literature (3)
- Pre-requisite ENG 111*
- ENG 290 Study of Literature
- Pre-requisite ENG 111*
- ENG 294 Mythology (3)
- Pre-requisite ENG 111*
- HIST 101 Western Civilization I (3)
- HIST 102 Western Civilization II (3)
- HIST 161 History of the U.S. to 1877 (3)
- HIST 162 History of the U.S. from 1877 (3)
- HIST 200 History of the World Religions (3)
- HIST 220 Southwestern Women's History (3)
- HIST 230 Chicano Experience in the US (3)
- HIST 250 American Indian History (3)
- HIST 260 History of New Mexico (3)
- HUM 105 Humanities of the Southwest (3)
- HUM 311 Why the Social Sciences Matter ** (3)
- HUM 414 Humanity and Creativity ** (3)
- HUM 421 History, Literature, Art & Philosophy ** (3)
- MUS 103 Music History & Literature I (3)
- MUS 105 Music Appreciation (3)
- MUS 218 Music History & Literature II (3)
- PHIL 110 Intro to Philosophical Problems (3)

- PHIL 111 History of Philosophy (3)
- PHIL 150 Critical Thinking (3)
- PIS 200 Introduction to Pueblo Indian Studies (3)
- THE 120 Introduction to Theatre I (3)
- THE 130 History of Theatre (3)
- Plus, topic courses with advisor's approval

* If your major is in the area of the Humanities/Fine Arts, unless otherwise regulated by a given department, you should select 9 hrs from Area V and 6 hrs. from Area IV; if in the Social/Behavioral Sciences, you should select 9 hrs from Area IV and 6 hrs from Area V. Consult your major advisor. In any case, you must complete a minimum spread of 15 hrs between Areas IV and V. .

** Students in associate degree programs are advised that upper-division courses are not covered under financial aid.

HEALTH, PHYSICAL EDUCATION & RECREATION (1 crs)

Elective (1) _____

PROGRAM REQUIREMENTS (36 crs)

- ES 112/L Introduction to Environmental Sciences I with lab (4) _____
- ES 113 Introduction to Environmental Sciences II _____
Pre-requisite: ES 112/L
- ES 125 Principles of Physical Hydrology (3) _____
Pre-requisites: ES 112/L
- ES 203 Introduction to GIS/GPS and Cartography (2) _____
Pre-requisite: Permission of instructor
- ES 307 Atmospheric Science (3) _____
Pre-requisites: ES 112/L and BIOL 203, CHEM 121/L and MATH 162
- ES 320 Environmental Ethics (3) _____
- ES 338 Environmental Law and Regulations (3) _____
Pre-requisites: ES 112/L
- ES 350 Watershed Hydrology and Management (3) _____
Pre-requisites: ES 112/L, ES 123, BIOL 203/L and CHEM 121/L
- ES 401 Community Participation in Environmental Planning (3) _____
Pre-requisites: ES 112/L, ES 320, BIOL 203/L and SPCH 130
- ES 412 Environmental Health and Toxicology (3) _____
Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L
- ES 415 Energy and Resource Development (3) _____
- ES 480 Senior Capstone - Field Experience (3) _____

You must choose one of the following concentrations (33-34)

Agriculture (34 crs)

- BIOL 360/L Botany with lab (4) _____
Pre-requisite: BIOL 204/L
- ES 225 Principles of Agricultural Ecology (3) _____
Pre-requisites: ES 112/L and BIOL 203/L
- ES 308 Invasive Species (3) _____
Pre-requisites: ES 112/L and BIOL 203/L
- ES 311 Plant Pathology (3) _____
Pre-requisites: ES 112/L and BIOL 203/L
- ES 340 Principles in Crop Production (3) _____
Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L
- ES 365 Principles of Sustainable Agriculture (3) _____
Pre-requisites: ES 112/L and BIOL 203/L
- ES 410/L Soil Testing and Interpretation (3) _____
Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L
- ES 411 Soil Management and Fertility (3) _____
Pre-requisite: ES 410/L
- ES 416 Irrigation and Drainage (3) _____
Pre-requisites: ES 112/L and MATH 162
- ES 457 Economics, Food, and Agriculture in Industrial Development (3) _____
Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L

Electives (3 hrs) Upper-division courses approved by department advisor

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Environmental Science (34 crs)

ES 121 Environmental Air Monitoring (3)	_____	_____
<i>Pre-requisites: ES 112/L</i>		
ES 330 Principles of Environmental and Occupational Health (3)	_____	_____
<i>Pre-requisites: ES 112/L and BIOL 203/L and CHEM121/L</i>		
RAD 234L Introduction to Radiation Science and Technology (4)	_____	_____
<i>Pre-requisite: Permission of instructor</i>		
ES 315* Technology and the Environment (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L</i>		
ES 333 Radiation Biology (3)	_____	_____
<i>Pre-requisite: Permission of instructor</i>		
ES 336 Environmental Sampling and Instrumentation (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 134, ES 201/L or CHEM 122/L, MATH 145 and BIOL 203/L</i>		
ES 400 Environmental Management (3)	_____	_____
<i>Pre-requisites: ES 112/L and BIOL 203</i>		
ES 402 Environment, Economics, and Sustainability (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 320 and BIOL 203/L</i>		
ES 410/L Soil Testing and Interpretation and lab (4)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L</i>		
Electives (6 hrs) upper-division courses approved by department advisor	_____	_____
_____	_____	_____
_____	_____	_____

Forestry (33 crs)

ES 102 Overview of Forest Measurement (3)	_____	_____
<i>Pre-requisite: FOR 113</i>		
ES/FOR 101 Introduction to Forestry (3)	_____	_____
FOR 113 Dendrology (3)	_____	_____
ES 310 Mensuration and Biometrics (3)	_____	_____
<i>Pre-requisites: ES/FOR 101, ES 112/L and BIOL 203/L</i>		
ES 317 Rangeland Management (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 120 and BIOL 203</i>		
ES 318 Silviculture (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L</i>		
ES 404 Forest Health, Restoration, and Management (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203</i>		
ES 410/L Soil Testing and Interpretation (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L</i>		
ES 411 Soil Management and Fertility (3)	_____	_____
<i>Pre-requisite: ES 410/L</i>		
ES 414 Wild and Fire Management (3)	_____	_____
<i>Pre-requisites: ES 112/L, ES 201/L and BIOL 203/L</i>		
Electives (3 hrs) upper-division courses as approved by department advisor	_____	_____
_____	_____	_____

TOTAL CREDIT HOURS 128

Educational Planning Form (Semester)

Name _____ Date _____

Major _____ Student ID _____

Fall Semester	Spring Semester	Summer
Total Units	Total Units	Total Units
Fall Semester	Spring Semester	Summer
Total Units	Total Units	Total Units
Fall Semester	Spring Semester	Summer
Total Units	Total Units	Total Units