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**MINNESOTA STATE**  
**UNIVERSITY**  
MANKATO

## ENVIRONMENTAL SCIENCES *College of Science, Engineering & Technology*

### WHAT DEGREE AND PROGRAMS DO WE OFFER?

The Environmental Sciences Program is a unique program in the Department of Biological Sciences. The major and minor provide students with a breadth of experience while developing a well-defined disciplinary understanding in selected areas. During the senior year, each student is required to complete an individual research project or internship.

### WHAT CAN I DO WITH THIS DEGREE?

Most graduates enter the workforce in an environmental area immediately. Several graduates have gone on to law school or entered Ph.D. programs.

### CAREER OPPORTUNITIES AVAILABLE FOR STUDENTS COMPLETING THIS PROGRAM

The careers available to graduates vary depending on their choice of a second major or the two minors. Private industry and consulting firms have an interest in graduates with environmental backgrounds. Many students with BS degrees have secured positions at county, state, and federal levels of government, private industry, consulting firms, and non-profit organizations. Forecasts concerning employment in environmental areas are optimistic. The following are typical positions for Environmental Science majors with a minor in Biology, Chemistry, Geography, etc.

#### Environmental Science-Biology

Toxicologists, aquatic ecologist, plant science, water pollution specialist, sanitation, feedlot officer, conservation officer, industrial hygienist, federal law compliance officers, microbiologist, environmental assessment officer.

#### Environmental Science-Chemistry

Pollution specialist (water, soil), environmental monitoring, methods development, compliance officer, quality control/quality assurance (QA/QC) officer.

#### Environmental Science-Geography

Natural resources manager, assessment planners, Geographic Information System (GIS) specialist, cartographer.

Salaries are variable. Above average salary positions are usually available for persons with hands-on experience with analytical instrumentation, environmental QA/QC, GIS, data management, environmental assessment, or toxicology.

Recent graduates have been placed with Federal agencies (Environmental Protection Agency, U.S. Fish & Wildlife), state agencies (Pollution Control Agency, Dept. of Natural Resources, Dept. of Agriculture, Dept. of

Health), multiple counties, consulting firms, wastewater treatment plants as well as private companies, and nonprofit organizations (National Wildlife Federation).

### INDICATORS OF A QUALITY PROGRAM

#### Accreditations

Minnesota State University, Mankato, is an accredited University. Currently there is no accreditation available for an Environmental Sciences Program.

#### Faculty credentials

The entire tenured and tenure-track faculty in the Department of Biological Sciences have doctorate degrees (Ph.D. or Ed.D.). Teaching assistants are used to teach in the laboratory section of primarily 100 and 200 level courses. The faculty teach all laboratory sections of the upper level (300-400) courses.

#### Alumni successes

- Associate Director of Water, Chemical Manufacturers Assn.
- Research Specialist, U.S. Fish and Wildlife
- Storm Water Specialist, Minnesota Pollution Control Agency
- Environmental Officer, Minnesota Department of Natural Resources
- Feedlot Officer, Blue Earth County
- Director Lab, Wastewater Treatment Plant
- Compliance Officer, Integrated Loss Control, Inc. Environmental Assessment Institute

### STUDENT EXPERIENCE/PROGRAM REQUIREMENTS

#### Specialized equipment/facilities available

The Environmental Sciences Program is a unique program in the Department of Biological Sciences. The department is housed in the Trafton Science Center and has 17 research and teaching laboratories. Students have the opportunity to use highly sophisticated instrumentation such as a flame-graphite furnace atomic absorption spectrophotometer, inductively coupled plasma emission spectrophotometer, gas chromatographs equipped with a variety of detectors, high pressure liquid chromatographs, environmental chambers, and equipment used in molecular biology. We also have a greenhouse facility and a certified environmental quality laboratory.

#### Capstone experience

During the senior year each student is required to complete an individual research project or internship. The research project may be presented at the University's annual undergraduate research conference as well as at regional and national meetings.

## Scholarships

There are approximately 45 scholarships available for upper level students through the Department of Biological Sciences and the College of Science, Engineering and Technology.

## HOW DO I PREPARE?

No special requirements are necessary for entry into the Environmental Sciences Program. Good communication skills plus a background in the physical, life sciences, chemistry, and an interest in the social, political, or economic issues are helpful.

Recommended high school preparation is one course in biology, chemistry, and algebra. Without this background it may take longer than four years to earn the degree.

## FOR MORE INFORMATION PLEASE CONTACT

### Beth Proctor

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Minnesota State University, Mankato  
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Mankato, MN 56001

### Phone

507-389-5697 (V)  
800-627-3529 or 711 (MRS/TTY)

### Email

bertha.proctor@mnsu.edu

You are encouraged to visit the campus.

To arrange for a visit, please call:

Office of Admissions: 507-389-1822

Toll-free: 800-722-0544

## SAMPLE FOUR-YEAR CURRICULUM (ENVIRONMENTAL SCIENCE, BS) GEOGRAPHY, MINOR | GIS CERTIFICATE

First Year (Fall)	First Year (Spring)
BIOL 105 General Biology I (4) GEOG 101 Physical Geography (3) OR GEOG 103 Cultural Geography (3) ENG 101 Composition (4) General Education, Goal Area 5, 6 or 7 (3)	BIOL 106 General Biology II (4) MATH 112 College Algebra (4) OR MATH 115 Pre-calculus (4) OR MATH 121 Calculus I (4) GEOG 101 Physical Geography (3) OR GEOG 103 Cultural Geography (3) ENVR 101 Perspectives in Environmental Science (4) Note: Only MATH 112 is required for the Environmental Science degree
Second Year (Fall)	Second Year (Spring)
GEOG 340 United States (3) BIOL 215 General Ecology (4) CHEM 201 General Chemistry I (5) OR CHEM 106 Chemistry of Life Process I (3) General Education, Goal Area 5 or 6 (3) General Education, Goal Area 6 or 7 (3)	ENG 271W Technical Communication (4) CHEM 202 General Chemistry II OR CHEM 111 Chemistry of Life Process II (5) General Education, Goal Area 6 (3) General Education, Goal Area 6 or 7 (3) General Education, Goal Area 11 (1)
Note: If CHEM 201 is selected, CHEM 202 must be selected If CHEM 106 is selected, CHEM 111 must be selected	
Third Year (Fall)	Third Year (Spring)
ENVR 450 Environmental Pollution Control (3) BIOL Restrictive Elective (3-4) STAT 154 Elementary Statistics (3) OR HLTH 475 Biostatistics (3) GEOG 373 Intro to Geographic Information Systems (4)	ENVR 460 Analysis of Pollutants (4) GEOG 473 Intermediate GIS (4) General Education, Goal Area 1B (3) General Education, Goal Area 9 (3) General Education, Goal Area 11 (1)
Fourth Year (Fall)	Fourth Year (Spring)
ENVR 440 Environmental Regulations (3) ENVR 480 Senior Research (1) OR ENVR 498 Internship (1) OR ENVR 499 Individual Study (1) BIOL 410 Global Change Biology (3) GEOG 471 Digital Field Mapping with GPS (4) GEOG 474 Introduction to Remote Sensing (4)	ENVR 470 Environmental Assessment (3) BIOL Restricted Elective (3-4) GEOG 480 Seminar: Environmental Hazards (4) GEOG 475 Applied Remote Sensing & GIS (4) OR GEOG 479 GIS practicum (4)

For additional information about course requirements, please visit <http://www.mnsu.edu/supersite/academics/bulletins/>

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