



DEPARTMENT OF
HIGHER EDUCATION &
WORKFORCE DEVELOPMENT

New Program Report

Date Submitted:

12/13/2022

Institution

Truman State University

Site Information

Implementation Date:

8/21/2023 12:00:00 AM

Added Site(s):

Selected Site(s):

Truman State University, 100 East Normal, Kirksville, MO, 63501-9980

CIP Information

CIP Code:

030104

CIP Description:

A program that focuses on the application of biological, chemical, and physical principles to the study of the physical environment and the solution of environmental problems, including subjects such as abating or controlling environmental pollution and degradation; the interaction between human society and the natural environment; and natural resources management. Includes instruction in biology, chemistry, physics, geosciences, climatology, statistics, and mathematical modeling.

CIP Program Title:

Environmental Science

Institution Program Title:

Environmental Science

Degree Level/Type

Degree Level:

Bachelor's Degree

Degree Type:

Bachelor of Science

Options Added:

Collaborative Program:

N

Mode of Delivery

Current Mode of Delivery

Classroom

Student Preparation

Special Admissions Procedure or Student Qualifications required:

There is no special admissions requirements or procedure beyond that expected of an undergraduate enrolling at Truman State University.



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Specific Population Characteristics to be served:

This program will serve a growing demand by students to have an undergraduate major on campus dedicated to the study of environmental issues, including climate science, sustainability, science communication, and conservation. Student Government Resolution 121.013 (April 2022) explicitly calls for reinforcement of environmental studies courses and a dedicated major suggesting that interest is present among current and prospective students.

Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:

Instructors for environmental science courses are typically expected to have a terminal degree (PhD) in their one of the disciplines that contribute courses to the program. Faculty should teach courses that are related to their area of disciplinary expertise.

Estimate Percentage of Credit Hours that will be assigned to full time faculty:

80-100%, as the major is predicated on existing courses that are currently taught by full time faculty. If demand for coursework in the above-listed areas rises, or an opportunity for a specialty emerges, there may be limited exceptions.

Expectations for professional activities, special student contact, teaching/learning innovation:

Faculty will be expected to be active in the appropriate regional and national professional organizations in their disciplines and explore interdisciplinary conferences germane to environmental science as a broader field. The program will actively promote student research, hands-on collaborative learning, and high impact experiences linking the program to the community.

Student Enrollment Projections Year One-Five

Year 1	Full Time: 3	Part Time: 1	
Year 2	Full Time: 5	Part Time: 2	
Year 3	Full Time: 7	Part Time: 2	Number of Graduates: 0
Year 4	Full Time: 8	Part Time: 3	
Year 5	Full Time: 10	Part Time: 3	Number of Graduates: 8

Percentage Statement:

n/a

Program Accreditation

Institutional Plans for Accreditation:

This program will not be independently accredited. If the program proves successful and expands its curriculum, Truman State University may consider specialty accreditation, such as ANSEC (Applied and Natural Science Accreditation Commission), ABET (Accreditation Board for Engineering and Technology), or EHAC (National Environmental Health, Science and Protection Accreditation). These accreditations are likely too specialized to meet undergraduate needs in the present configuration of the program.

Program Structure

Total Credits:

120



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Residency Requirements:

Students must complete the last 28 hours of their undergraduate degree in residency at Truman, but can request a waiver of this requirement through the Registrar's office.

General Education Total Credits:

42

Major Requirements Total Credits:

72

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
ENVS 480	1	Seminar In Environmental Studies
BIOL 515	4	Animal Behavior
POL 253	3	Environmental Politics
ENVS 472	3	Internship: Evaluation and Analysis
GEOG 320	3	Geographic Information Science
ENVS 332	3	Grassroots Environmentalism
ENVS 331	2	Expanding Environmental Consciousness
BIOL 517	4	Mammology
CHEM 312	5	Foundations of Chemical Analysis
BIOL 317	3	Economic and Medical Botany
CHEM 130	4	Chemical Principles I
BIOL 506	4	Ornithology
BIOL 304	4	General Microbiology
BIOL 514	3	Applications in Conservation Biology
BIOL 345	3	Introduction to Mathematical Biology
ECON 345	3	Economic Analysis of Social and Policy Issues
MATH 198	5	Analytic Geometry and Calculus I
STAT 331	3	Biostatistics
BIOL 331	4	Introduction to Evolutionary Biology
BIOL 314	4	Plant Taxonomy
CHEM 333	2	Organic Chemistry Lab
ECON 307	3	Natural Resources Economics



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ECON 201	3	Principles of Microeconomics
AGSC 110	4	Principles of Plant Agriculture
BIOL 301	4	Introduction to Ecology
BIOL 300	4	Genetics
BIOL 104	4	Ecology and Evolution of the Organism
BIOL 107	4	Cells, Molecules, and Genes
AGSC 416	3	Advanced Topics in Agronomy
ENVS 471	3	Internship: Environmental Science
AFR 300	3	Conservation and Game Management for African Mammals
ENVS 200	3	Introduction to Environmental Studies
ENVS 340	1	Practicum in Environmental Studies
BIOL 312	3	Local Flora
CHEM 320	4	Foundations of Organic Chemistry
AGSC 314	4	Principles of Soil Science
BIOL 502	3	Biometry
CHEM 330	1	Organic Chemistry I Lab
BIOL 323	4	Eukaryotic Diversity
PHYS 185	4	College Physics I
CHEM 131	4	Chemical Principles II
BIOL 503	4	Evolutionary Biology
CHEM 329	3	Organic Chemistry I
BIOL 504	4	Herpetology
ENVS 210	4	Environmental Science
BIOL 316	4	Entomology
BIOL 321	3	Foundations of Genetics
AGSC 410	3	Soils, Conservation, and Management
BIOL 318	4	Mycology
AGSC 306	1	Special Topics: Mushroom Identification
AGSC 414	3	Agricultural Policy
BIOL 308	3	Special Topics: Chemical Ecology



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AGSC 415

3 Ethical issues in Sustainable
Agriculture

Free Elective Credits:

17

Internship or other Capstone Experience:

Students complete ENVS 480 (Seminar in Environmental Studies) as a capstone. This course will outline career placement strategies, provide a forum for reporting on independent research, and prepare students for graduation. The program includes several courses that involve research or internship opportunities. Most students are likely to take at least one of these options to satisfy the major.

Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus or CBHE-approved off-site location.

I certify that the program will not unnecessarily duplicate an existing program of another Missouri institution in accordance with 6 CSR 10-4.010, subsection (9)(C) Submission of Academic Information, Data and New Programs.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

First and Last Name: KEVIN
MINCH

Email: kminch@truman.edu

Phone: 660-785-4107

Environmental Science Major Requirements (BS)

Degree Requirements

Majors must complete all courses listed under Part I (Required Support) and Part II (Major Requirements). Courses in Part I also count towards Dialogues requirements. Part III (Major Electives) are broken into four sections (1-4); students must earn at least 3 credit hours from each section, and accumulate at least 16 cumulative credit hours in sections 1-4. A final grade of "D" or "F" does not earn credit towards the major in any course listed in Parts I-III.

Dialogues Requirements: 42-61 credits

Missouri Statute (1-4 credits)

Major Requirements (65 credits)

PART I: Required Support (16 credits)

Course	Course Title	Credits
CHEM 130	<i>Chemical Principles I</i>	4
CHEM 131	<i>Chemical Principles II</i>	4
ECON 201	<i>Principles of Microeconomics</i>	3
MATH 198	<i>Analytic Geometry and Calculus I</i>	5

PART II: Major Requirements (33 credits)

Course	Course Title	Credits
AGSC 314	<i>Principles of Soil Science</i>	4
BIOL 104	<i>Ecology and Evolution of the Organism</i>	4
BIOL 107	<i>Cells, Molecules, and Genes</i>	4
BIOL 301	<i>Introduction to Ecology</i>	4
ENVS 200	<i>Introduction to Environmental Studies (WE)</i>	3
ENVS 210	<i>Environmental Science</i>	4
ENVS 332	<i>Grassroots Environmentalism</i>	3
ENVS 480	<i>Seminar in Environmental Studies</i>	1
GEOG 320	<i>Geographic Information Science</i>	3
BIOL 345 OR BIOL 502 OR STAT 331	<i>Introduction to Mathematical Biology OR Biometry OR Biostatistics</i>	3

PART III: Major Electives (complete 16 credits, ≥ 3 credits earned in each section 1-4)

Section 1: Physical Science

Course	Course Title	Credits
CHEM 320	<i>Foundations of Organic Chemistry</i>	4
CHEM 329 AND 330 OR 333	<i>Organic Chemistry I AND Organic Chemistry I Lab (330) OR Organic Chemistry Lab (333)</i>	4-5
CHEM 312	<i>Foundations of Chemical Analysis (WE)</i>	5
PHYS 185	<i>College Physics I</i>	4

Section 2: Organismal Diversity

Course	Course Title	Credits
AGSC 110	<i>Principles of Plant Agriculture</i>	4
AGSC 306	<i>Special Topics: Mushroom Identification</i>	1
BIOL 304	<i>General Microbiology</i>	4
BIOL 312	<i>Local Flora</i>	3
BIOL 314	<i>Plant Taxonomy</i>	4
BIOL 316	<i>Entomology</i>	4
BIOL 318	<i>Mycology</i>	4
BIOL 323	<i>Eukaryotic Diversity</i>	4
BIOL 504 OR BIOL 506 OR BIOL 517	<i>Herpetology OR Ornithology OR Mammalogy</i>	4

Section 3: Ecology, Evolution, and Conservation

Course	Course Title	Credits
AGSC 410	<i>Soils, Conservation, and Management (WE)</i>	3
AFR 300	<i>Conservation and Game Management for African Mammals</i>	3
BIOL 300 OR BIOL 321	<i>Genetics OR Foundations of Genetics</i>	3-4
BIOL 308	<i>Special Topics: Chemical Ecology</i>	3
BIOL 331 OR BIOL 503	<i>Introduction to Evolutionary Biology OR Evolutionary Biology</i>	4
BIOL 514	<i>Applications in Conservation Biology and Management</i>	3
BIOL 515	<i>Animal Behavior</i>	4

Section 4: Humans and the Environment

Course	Course Title	Credits
AGSC 414	<i>Agricultural Policy</i>	3
AGSC 415	<i>Ethical Issues in Sustainable Agriculture</i>	3
AGSC 416	<i>Advanced Topics in Agronomy</i>	3
BIOL 317	<i>Economic and Medical Botany</i>	3
ECON 307	<i>Natural Resources Economics</i>	3
ECON 345	<i>Economic Analysis of Social and Policy Issues</i>	3
ENVS 331	<i>Expanding Environmental Consciousness</i>	2
ENVS 340	<i>Practicum in Environmental Studies</i>	1
ENVS 471	<i>Internship: Environmental Science</i>	3
ENVS 472	<i>Internship: Evaluation and Analysis</i>	1-3
POL 253	<i>Environmental Politics</i>	3

Independent research (e.g. AGSC 441-442, BIOL 441-444, CHEM 441-443, ENVS 473), if related to environmental science, may also count towards section IV upon approval.