

Course Prefix/Number/Title: Environmental Science – BIOL 124

Number of Credits: 4

Course Description: Relation of humans to their environment. 1. Understanding basic principles of Natural Resource Management. 2. Understand the human cause of current environmental problems and possible solutions. 3. Population demography 4. Sustainable practices 5. Applying principles of ecology that are associated with the study of environmental science. 6. Learn to apply critical thinking in environmental science. 7. Using the scientific method of inquiry to inform environmental science perspectives.

Pre-/Co-requisites: None.

Course Objectives: Students successfully completing this course will:

- 1.) Know and understand the scientific principles of environmental issues.
- 2.) Explain major environmental issues of the day and their causes.
- 3.) Understand how environmental factors influence society and how society impacts the environment.
- 4.) Explain how and why society addresses environmental issues.

Instructor: Michelle Cauley

Office: Molberg 20

Office Hours: T / TH – 8:00 – 10:00 a.m.

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Lecture/Lab Schedule: MWF 10:00 – 10:50
Lab Th 1:00 – 2:50

Textbook(s): G. Tyler Miller, Scott Spoolman, Danielle Andrews-Brown Cengage Publishing. Environmental Science, 17th edition, 2024

Course Requirements: This is an introductory course that allows for building a foundation in many learning areas. Students are graded on various learning tasks including weekly assignments, quizzes, exams, and labs.

Assessment Tool:	Percentage of your Grade:		Grading Scale
Quizzes	10%		A = 90 – 100%
Labs	30%		B = 80 – 89.9%
Assignments / Homework	20%		C = 70 – 79.9%
Unit Tests / Final Exam	20%		D = 60 – 69.9%

Citizen Science: Final Project and Presentation	10%		F = 0 – 59.9%
Professionalism	10%		

Quizzes: There will be a series of 12 quizzes throughout the semester from various chapters. The two lowest scores will be dropped from your grade.

Projects / Labs: Labs will give an opportunity to connect lectures and readings with interactive and hands-on opportunities. Larger projects will allow students the opportunity to utilize critical thinking skills and apply them to real-world Environmental Science scenarios.

Assignments / Homework: There will be a combination of assigned readings, in-class worksheets, and traditional assignments. Homework must be submitted on time to receive full credit.

Unit Tests and Final Exam: There will be three unit-based tests and one final exam throughout the semester. These will be available to be completed online through Blackboard. Unit Tests and your Final Exam will be open for one week (seven days) and you will have unlimited time to take them within the testing window.

Tentative Course Outline:

Week	Over Arching Topics / Chapters	Reading Assignments	Tests / Quiz Schedule
August 21 – 25	Introduction, Overview, Review Syllabus	Welcome Letter, Syllabus	Syllabus Quiz
August 28 – September 1	History of Conservation and Environmental Science	*Materials Provided*	Chapter Quiz
September 4 – 8	Human Population and Urbanization	Chapter 6 (pages 106 – 133)	Chapter Quiz
September 11 – 15	Science, Matter, Energy, Systems	Chapter 2 (pages 26 – 43)	Exam 1 (Ch. 2, 6, Env. History)
September 18 – 22	Energy Resources	Chapter 13 (pages 332 – 380)	Chapter Quiz
September 25 – 29	The Environment and Sustainability	Chapter 1 (pages 2 – 24)	Chapter Quiz
October 2 – 6	Ecosystems, Biodiversity, Evolution	Chapters 3-4 (pages 44 – 87)	Chapter Quiz
October 9 – 13	Species Interaction, Succession, Population Control	Chapter 5 (pages 88 – 105)	Exam 2 (Ch. 1, 3, 4, 5, 13)
October 16 – 20	Climate and Ecosystem Biodiversity	Chapter 7 (pages 134 – 165)	Chapter Quiz
October 23 – 27	Sustaining Biodiversity: Saving Species and Ecosystems	Chapter 8 / 9 (pages 166– 225)	Chapter Quiz
October 30 – November 3	Geology and Mineral Resources	Chapter 12 (pages 306 – 331)	Chapter Quiz
November 6 – 10	Food Production and the Environment	Chapter 10 (pages 226 – 262)	Exam 3 (Ch. 7- 10, 12)

November 13 – 17	Water Resources and Water Pollution	Chapter 11 (pages 264 – 305)	Chapter Quiz
November 20 – 24	Environmental Hazards and Human Health	Chapter 14 (pages 382 – 409)	Chapter Quiz
November 27 – December 1	Air Pollution, Climate Change, Ozone Depletion	Chapter 15 (pages 382 – 455)	Chapter Quiz
December 4 – 8	Solid and Hazardous Wastes	Chapter 16 (pages 456 – 479)	Chapter Quiz
December 11 - 15	Finish Activities / Review for Final	Finals Week!	Final Exam (Ch. 11,14-16)

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):

1. Demonstrates an understanding of the natural environment.
 - a. Chooses best management practices for sustainability of the natural environment.
 - b. Explains the impact of human activity on the environment.
2. Applies the Scientific Methods of Inquiry
 - a. Utilizes the scientific process to solve problems.
3. Applies scientific information in everyday life.
 - a. Recognizes the role of science in nature and society.

Relationship to Campus Focus: A greater understanding of the Earth, its resources, and our connection to the planet's systems. Through this class we will explore how decisions in our lives impact the planet's resources and their viability for the future.

Classroom Policies:

- Students are expected to be polite and respectful of the instructor, other students, and any guests in our class. Earbuds are expected to be out of ears, phones on silent.
- Lecture outlines are available from the course shell. The outlines can be used to guide you in the understanding of material and are useful in notetaking.
- All assignments are due in a timely fashion. Each week an assignment is not turned in, 10% of the total score is lost.
- If a student is to miss an exam or quiz, it must be taken ahead of time for full credit.
- When in doubt – communicate! Email and office hours are the easiest ways to let your instructor know of any issues or emergencies that arise.

Student Email Policy: Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon vital information conveyed via campus email rests with the student.

Academic Integrity: According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code

detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

- **AI Tools:** Artificial Intelligence tools like ChatGPT and other copilots are **not** prohibited in the course. In fact, we will explore their uses (and potential issues) throughout the semester. Keep in mind that:
 - You must submit original work (not generated by AI) for all assessments in this course. That means citing if you use AI-generated text and how you apply it in your work.
 - Large language models (LLM) like ChatGPT have been known to supply inaccurate information and fake citations. Use your information literacy skills to corroborate AI information if you are using it in your research. Failure to cite your use of AI or fabricated information could result in your violation of the Academic Integrity Policy (see above).
 - Different assignments will allow different levels of AI use. Read directions and prompts carefully. AI is useful but does not take the place of the human elements of critical thinking and emotion.

Disabilities or Special Needs: Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX: Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy, and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.