

The Indiana Academy for Science, Mathematics, and Humanities
Environmental Science (SCI04328)
Spring Semester 2023

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Office hours: Monday 2:30-5 PM
Wednesday 2:15-5 PM
Thursday 1-3 PM on Zoom (Email me, and I'll send you a link.)
Friday 2:15-5 PM

Class meetings: MWF 12-12:50 with lab on T from 2-3:50, presumably in BU211

Course description (from the Course Catalog, <https://academy.bsu.edu/catalog/>)

Prerequisite: One year biology

Co-requisite: AP Environmental Science Lab (SCI4328L)

Credit: 1.5 credits

Offered: Spring

The study of environmental science concerns itself with the interaction between humans and the ecosystems, in which we live and work. The course focuses on the determination of environmental quality through a series of laboratory experiences dealing with soil, water, and air resources. There is a concentration on problems having to do with population, pollution, agriculture, resource management and land use. An integrated approach to the issues facing us is emphasized. The course will use a problem-based learning approach and will incorporate a service learning component. Students will prepare for and are encouraged to take the AP Environmental Science exam in May.

Course learning outcomes

Upon completing this course, students will be able to describe the ways in which human societies interact with their environments, apply the concepts of resource limitation and sustainability to discuss the complex issues involved in the resolution of environmental conflicts, and practice field and laboratory analytic techniques to assess environmental quality.

Course textbooks

Friedland, Andrew; and Rick Relyea. 2015. *Environmental Science for AP*, 2nd ed., W.H. Freeman and Company: New York.

Molnar, William. 2011. *Laboratory Investigations for AP Environmental Science*, 2nd ed., People's Education, Saddle Brook, NJ.

Nash, Roderick Frazier. 1990. *American Environmentalism*, 3rd ed., McGraw-Hill: USA.

There is a lot of valuable information in your textbooks; however, you may notice that they are older editions. We will supplement these texts with other relevant material throughout the semester.

Please note that some aspects of this course may need to be changed during the semester, so this syllabus is subject to revision. If the syllabus is revised during the semester, the updated syllabus will be posted on Canvas. Please refer to Canvas for updated information.

Assignments:

The assignments for the course are shown in the table below.

Assignment	Points	Number	Total
Quizzes/lab notebook/workbook	100		100
Reports and presentation	100		100
Lab write-ups	100		100
Environmental advocacy	50		50
Lecture exam	100	3	300
Comprehensive final exam	150		150
Total			800

Grading Scale:

100 – 93% = A	< 90 – 87% = B+	< 80 – 77% = C+	< 70% = D*
< 93 – 90% = A-	< 87 – 83% = B	< 77 – 70% = C	
	< 83 – 80% = B-		

Grades will be posted on Canvas and Powerschool. If I am late posting grades, you can estimate your current grade in the course by adding all the points you have earned or anticipate earning from all assignments. There are 800 points available in the course, so each point is worth 0.1%. **Please make an appointment to talk with me if you are concerned about your grade or uncertain about your standing in the course.**

Attendance

Please arrive on time to class. The instructor is required to take attendance so that all students are accounted for. If you arrive late to class, someone might start checking to see where you may be. If you are late, you may need to remind the instructor to change the absence to tardy. This will disrupt our workflow and possibly the workflow of others, so please try to avoid being late.

If you miss lecture for any reason, you are responsible for obtaining any notes, announcements, reading material, or assignments from the instructor or a classmate. If you miss a lab, it may be difficult to arrange for you to make it up. Participation in lab is essential for your own success and for that of any student working with you. If an unavoidable emergency or illness prevents you from attending class or completing an assignment on time, please inform the instructor as soon as possible (preferably beforehand).

The Academy and not the instructor determines whether an absence is excused or unexcused. If an absence is excused, the instructor will make every reasonable effort to ensure you have the opportunity to make up any assignments associated with the absence. If the absence is unexcused, the instructor may accept late work as time allows, but a grade penalty of 10% per day late may be applied at the instructor's discretion. No direct grade penalty is assessed for an absence, but missing class is likely to make it very difficult for you to be successful in the course.

Safety

Please familiarize yourself with lab safety protocols and perform procedures with care. Because we hold class in a science lab, no food, gum, or drinks can be brought into the classroom. Your work area should always be free of clutter and only have the necessary materials (pens/pencils, notebook, etc.). If there are glassware breakage or equipment problems, please notify the instructor immediately to ensure proper safety and equipment protocols are followed.

Academic conduct

It is important to prepare for each class meeting by completing the reading and any assignments that are due. Assignments should be submitted on Canvas or in class, depending on the assignment. Although some activities such as labs may be completed in pairs or groups of students, each student is individually responsible for submitting assignments with original writing (not copied from your lab mate). You are encouraged to discuss answers to lab activities with other class members, but the wording should not be the same. Do not share word processing files with each other, but make sure each student has access to the raw data for analysis.

You are expected to conduct yourself according to the Indiana Academy Student Handbook (<https://academy.bsu.edu/handbook/>), especially the Code of Conduct and the section on Academic Integrity. On writing assignments, please be sure to use your own wording and cite all sources of information, whether from the Internet or otherwise. If you are not sure how to cite something, ask the instructor. Note that language copied verbatim from a book, website, another student's paper, or any other source is considered plagiarism unless it is in quotation marks and cited. Plagiarism is a form of academic dishonesty. Please do not plagiarize or cheat in any other way. An infraction may result in a 0 for the assignment. Also, the instructor is required to report any ethics violations to the Academic Integrity Board or (the Director of Academic Affairs and your parents).

Classroom conduct

Please be considerate of other classmates. Keep any devices not used for classroom activities silenced or off. Your phone should be put away if it's not being used for class. Laptops can be used in class for class activities, but repeated use for non-class activities may result in a loss of that privilege. Please treat each other with respect and refrain from annoying behavior. Do not interrupt another student or the instructor. If you are having difficulty getting a word in, you can raise your hand. Examples of improper conduct include having extended conversations, working on assignments for other courses, sleeping, etc. Serious and/or chronic problems may be cause for dismissal from the course.

A calculator (but not a phone) may be used for exams.

Late assignments

If you are late submitting an assignment because you missed class, see the section above on attendance. If you are late submitting an assignment for a reason unrelated to missing class, the instructor may grade the assignment as time allows, but 10% will be deducted from the grade for each day late at the instructor's discretion.

If an exam is missed because of an excused absence, the instructor will make every reasonable effort to ensure you have the opportunity to make it up. If the absence is unexcused, a retake may be allowed at the instructor's discretion, but a penalty of 10% per day late may be assessed at the instructor's discretion. If a lab is missed, it may be difficult to arrange for a student to make it up due to supplies and logistical constraints. If the absence was excused, the instructor may need to substitute an alternate activity.

Course evaluations:

At the end of the semester, each student will have the opportunity to evaluate the course, instructor, and materials. The instructor will not see the results of the evaluations until after grades have been submitted. Your frank and constructive responses will help improve the course for future semesters.

Special circumstances:

If you need accommodations because of a disability, have emergency medical information to share with me, or need special arrangements in case the building needs to be evacuated, please make an appointment with me as soon as possible.

If you are struggling with study habits, stress, and/or personal issues, I encourage you to discuss this with your SLC and/or contact the Guidance Office for help in dealing with these issues so that you can thrive at the Academy. Many resources are available for students, and important contact information is listed below:

For academic assistance: Rebecca Hammons (rebecca.hammons@bsu.edu)
phone: 765-285-8108 office: WA 160-B

For tutoring: Donald Winslow (donald.winslow@bsu.edu) to find an Academy student tutor
To find a tutor through Ball State: iaguidance@bsu.edu
phone: 765-285-2889 office: WA 160-D

Mental health: Dr. Mindy Wallpe (mcwallpe@bsu.edu)
phone: 765-285-5483 office: WA 160-C

Ball State University Inclusive Excellence Statement:

Ball State University aspires to be a university that attracts and retains a diverse faculty, staff and student body. We are committed to ensuring that all members of the community are welcome through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse as expressed in our [Beneficence Pledge](#). For Bias Incident Response information, please click [here](#) or e-mail reportbias@bsu.edu.

Schedule

WEEK	TOPIC	LAB	READING
1	Scope of Environ. Science Geology	Maps Indiana Geology	Ch 1 Ch 8 Module 24
2	Geological processes	Rock Types	
3	Martin Luther King Day North America Geomorphology	Soil Texture Physical Properties	Ch 8 Module 25
4	Soils/Agriculture Corn	Soil Nutrients Soil Survey	Ch 11 Module 31
5	Industrial agriculture CAFO's GMO's	"Food Inc"	Ch 11 Module 32
6	Examination I Atmospheric Processes Weather	Climatology	Ch 19 Ch 4
7	Air Resources Clean Air Act	Tree Ring Analysis	Ch 15
8	Indoor Air Global Air Issues	Air Quality Testing	Ch 15 Module 50 Ch 15 Module 49
9	Spring Break		
10	Solid Waste Examination II	Radon Testing	Ch 23
11	Energy Generation Environ. Energy Problems	Insulation Lab	Ch 12

12	Energy Generation II Sustainable Energy Energy Issues	Energy Activity	Ch 13
13	Urban Ecology Sustainability	Energy Presentations	Ch 10
14	Hydrologic Resources Groundwater	Water Quality I Chemical Testing	Ch 9
15	Rivers Lakes I	Water Quality II White River	Ch 4 Module 13
16	Water Issues I Water Issues II Exam III	Water Quality III Benthic Macroinvertebrates	Ch 14
17	Environmental Laws Resource Issues Environmental Advocacy	Wildflowers	Ch 20
18	Final Examination		
APES Exam			