

ENVIRONMENTAL SCIENCE
BIOL 3120 – Fall 2021
Course Syllabus

² *The fear and dread of you will fall on all the beasts of the earth, and on all the birds in the sky, on every creature that moves along the ground, and on all the fish in the sea; they are given into your hands.* ³ *Everything that lives and moves about will be food for you. Just as I gave you the green plants, I now give you everything.* -Genesis 9:2-3

Instructor: Patrick J. Ruhl, PhD

Scan for Contact Info and Office Hours

Office: SCI 163

Telephone: 501-279-5373

Campus Box: 12251

E-mail: pruhl@harding.edu

Class Meeting Time: MWF 11:00 am (SCI 177)



Texts: *Environmental Science for a Changing World (Fourth Edition)* ISBN: 978-1319245627

An electronic copy of this textbook is included with your registration to *Achieve*, so unless you prefer to use a paper copy, you DO NOT NEED TO PURCHASE the textbook separately.

Course Description:

This course provides an overview of biological systems, natural resources, and human environmental impacts. Emphasis is placed on our human influence on the environment, and our responsibility, as stewards of God's creation, to pursue ethical and sustainable resource consumption practices.

Method of Course Delivery:

We will meet for a 50-minute class period on Monday, Wednesday, and Friday. As students, you should expect a mixture of traditional content delivery methods (e.g., lecture) and active learning exercises (e.g., class discussion, problem solving exercises, critical thinking activities etc.) designed to encourage your active participation in the learning process. You will access all Achieve course materials and assignments through Canvas.

Achieve Adaptive Quizzes:

Adaptive Quizzes are designed to guide you through the key learning objectives from the textbook and help you focus on the material you need the most help with. You complete these activities by answering questions until you reach a predetermined target score. You score points by answering questions correctly, and questions get harder (i.e., worth more points) as you answer more questions correctly. If you get a question wrong, feedback explains why, and links you back to the e-book for review – then you get a chance to try again for fewer points. You are strongly encouraged to reference the e-book by clicking on the “Read the e-book” link. Although questions are worth fewer points if you get a “hint,” there is no penalty for reviewing the e-book prior to attempting a question.

Course Grading:

Assessment of the knowledge, skills, and proficiency of each student for the purpose of assigning a letter grade at the completion of this course will be based on the following breakdown:

GRADE CATEGORY	PERCENT
Adaptive Quizzes	25%
Homework	10%
“In-Class” Quizzes	15%
“In-Class” Participation	10%
Exam 1	10%
Exam 2	10%
Exam 3	10%
Final Exam	10%
Total	100%

The grading scale is as follows:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
< 60%	F

COVID-19 Statement and Class Attendance Policy:

This course is being offered during a pandemic which creates an uncertain and unusual climate that might require adjustments such as changes to meeting times, modalities and work assignments. Every effort will be made to notify students of any change as soon as possible. Because this course may be meeting using video conferencing, students are expected to find a safe, secure and reliable internet connection to participate in virtual meetings at the required level. Students are expected to attend class if they are healthy, but I also expect students to quarantine if the circumstances require it. As such, class participation points will be strongly associated with class attendance. However, accommodations will be provided for students who are in quarantine/isolation due to COVID-19 for the duration of their quarantine/isolation.

Make-Up Policy:

If a student fails to complete a quiz or exam for an *unexcused* reason they will receive a grade of zero. A student will only be allowed to make up a quiz or exam if he/she was unable to complete the assessment for an *excused* reason according to the Harding University attendance policy. If a student fails to complete a quiz for an excused reason, it will be the student's responsibility to complete the make-up quiz within **48 hours** of the excused absence. It will be the *student's responsibility* to schedule a time to make-up a missed quiz or exam. If a student is unable to schedule a make-up exam within a one-week window, he/she will receive a score of zero for that exam.

Academic Integrity Policy:

Cheating in all its forms is inconsistent with Christian faith and will not be tolerated in this class. Academic dishonesty will result in penalties up to and including dismissal from the class with a failing grade and will be reported to the Director of Academic Affairs. All instances of dishonesty will be handled according to the procedures delineated in the Harding University catalog. If you cheat on an assignment, *at minimum* you will be assigned a zero for that assignment. Use of cell phones is PROHIBITED during exams. The visual appearance or use of any unapproved electronic device during an exam will be interpreted as cheating and will result in a zero for that exam.

Additional Classroom Policies:

Please be respectful, and stay engaged in the learning process. I will do everything I can to make this class interesting and applicable for you, but keep in mind that learning is an active (not passive) endeavor. I expect you to show up to class ready to participate and learn something new! I allow students to use laptops to take notes, but I reserve the right to limit the use of student laptops if personal computers are being used for unrelated purposes during class time. Cell phone use during class is distracting and rude. If you must send or receive a text or call during lecture time, please excuse yourself from the classroom and take it in the hallway.

Assessment:

Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching-learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all criteria of the Higher Learning Commission, one of six regional institutional accreditors in the United States. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission of Harding. All academic units are assessed in reference to student learning outcomes, program learning outcomes, and university learning outcomes.

Students with Disabilities:

It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a documented disability (e.g. physical, learning, or psychological) who needs to arrange reasonable accommodations, must contact the instructor and Disability Services at the beginning of each semester (If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Disabilities Director as soon as possible in order to get academic accommodations in place for the remainder of the semester). The Disability Office is located in Room 205 in the Student Center, telephone: (501) 279-4019.

*** Please contact me now if you have a documented disability!** Do not wait until the middle/end of the semester!

Course Learning Outcomes:

University Level Outcomes (ULO)

- Biblical Knowledge and Application (ULO 1): Students will demonstrate understanding of biblical content and interpretation and their applications in ethical decision-making regarding environmental and social justice issues
- Written and Oral Communication (ULO 2): Students will demonstrate effective written and oral communication with appropriate consideration for the context and audience, both as a presenter/writer and an observer/evaluator.
- Critical Thinking (ULO 3): Students will examine environmental issues and proposed solutions in order to formulate or assess their own opinions or conclusions
- Global Citizenship (ULO 4): Students will develop a greater knowledge of other cultures and a deeper sense of global citizenship as they become more aware of large-scale global environmental issues.
- Historical Perspective (ULO 5): Students will demonstrate a broad perspective on the context of the past and the development of ideas that enables them to understand and evaluate current environmental issues.
- Scientific Perspective (ULO 7): Students will develop skills identifying and applying the principles and processes of scientific reasoning to address environmental issues.

Program Level Outcomes (PLO)

- BIOLOGICAL KNOWLEDGE: Students will learn about global environmental issues within biological contexts ranging from microbiology to ecology.
- COMMUNICATION: Students will address current environmental issues using both written and oral communication.
- SCIENTIFIC PROCESS: Students will be able to describe and demonstrate the process of science (including developing biological questions based on current theory, proposing methods for addressing the questions, qualitatively and/or quantitatively analyzing the resulting data, and drawing appropriate conclusions).
- SCIENCE AND FAITH: Students will be able to describe and explore, in a thoughtful humble manner, the challenges at the interface of environmental science and religion.

Student Level Outcomes (SLO)

Upon completion of this course, students should be able to:

- Assess scientific data and interpret the steps of the scientific process.
- Explain how humans interact with their environment
- Communicate biological knowledge of environmental issues using both written and oral methods
- Think critically about current global environmental crises and discuss proposed solutions to address them.

Dress Code:

All members of the Harding community are expected to maintain standards of modesty and decency in dress appropriate to the Christian lifestyle and consistent with professional employment expectations. For these reasons, students are expected to adhere to an established dress code as described in the Student Handbook.

Add and Drop Dates:

The last day to add this course is August 27, 2021. The last day to drop this course is December 1, 2021.

Credit Hour Statement:

In accordance with the official Time Management Policy of the University, you are expected to spend two hours outside of class for each credit hour spent in class each week. For this course, that amounts to six additional hours per week that should be spent on course-related work, including but not limited to reading, problem solving, reviewing, organizing notes, studying, etc.

Course Schedule and Material Coverage (order and content may be subject to change):

Date	Course Topics	Important Dates
8/23 – 8/27	Module 1 Intro to Environmental, Science, and Information Literacy Module 2 Ecology Module 3 Evolution and Biodiversity	9/3 Module 1 HW Due 9/10 Module 2 HW Due 9/17 Module 3 HW Due 9/20 EXAM 1
8/30 – 9/03		
9/06 – 9/10		
9/13 – 9/17		
9/20 – 9/24		
9/27 – 10/01	Module 4 Human Populations and Environmental Health Module 5 Managing Resources: Environmental Economics and Policy	10/01 Module 4 HW Due
10/04 – 10/08		10/08 Module 5 HW Due
10/11 – 10/15		10/11 EXAM 2
10/18 – 10/22	Module 6 Water Resources Module 7 Geological and Land Resources Module 8 Food Resources	10/29 Module 6 HW Due 11/05 Module 7 HW Due 11/12 Module 8 HW Due 11/15 EXAM 3
10/25 – 10/29		
11/01 – 11/05		
11/08 – 11/12		
11/15 – 11/19		
11/22 – 11/26	THANKSGIVING BREAK	
11/29 – 12/03	Module 9 Conventional Energy: Fossil Fuels	12/10 Module 9 HW Due
12/06 – 12/10	Module 10 Air Quality and Climate Change	12/10 Module 10 HW Due
	Module 11 Alternatives to Fossil Fuels	12/10 Module 11 HW Due
12/16	FINAL EXAM 10:30 AM CST	

Notice: This syllabus is intended to provide students with a reasonable expectation for what will be covered during the semester, and will be followed as closely as possible. However, the instructor reserves the right to modify, supplement, and make changes to the policies/schedule outlined above in response to course needs or extenuating circumstances.

BIOL 3120, ENVIRONMENTAL SCIENCE, SYLLABUS CONTRACT

Fall 2021

Name (PRINT): _____ Major _____

I, the undersigned, declare that I have received, read, and understand the course syllabus. I agree to abide by its terms.

Signature: _____ Date: _____

Please complete this form and hand it in at the beginning of the next class period.

Thank you,
Dr. Ruhl