



# SYLLABUS

## ENR 2100

Introduction to Environmental Science

The Ohio State University

GE Natural Science: Biological Science Class: 3 credits

Spring Semester 2020 (SP20)

In-person Sections

### COURSE OVERVIEW

This course will utilize multiple platforms supported by OSU. Course content is available using platforms: (1) Carmen (<https://carmen.osu.edu>) or (2) U.OSU.EDU (<http://go.osu.edu/enr2100>). The course material is the same for either platform. Carmen will be used to complete all quizzes, exams, and other assignments. Assignments, quizzes and exams must be completed through Carmen by the due date shown on the syllabus.

### Instructor

Instructor: Dr. Brian H. Lower, Ph.D.

Teaching Associate: Ms. Ella M. Weaver, B.S.

**Email:** [ENR2100@osu.edu](mailto:ENR2100@osu.edu)

**Twitter:** [@OSUEnViro](https://twitter.com/OSUEnViro)

### Course Description

This course fulfills the General Education (GE) Category Natural Science, Biological Science. Natural Science coursework fosters students' understanding of the principles, theories, and methods of modern science, the relationship between science and technology, the implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world.

### GE Course Learning Outcomes

**By the end of this course, students should successfully be able to:**

- Understand the basic facts, principles, theories and methods of modern science.
- Acknowledge key events in the development of science and recognize that science is an evolving body of knowledge.

- Describe the inter-dependence of scientific and technological developments.
- Recognize social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

## COURSE MATERIALS AND TECHNOLOGIES

### Textbook

#### TEXTBOOK IS RECOMMENDED

**Environmental Science for a Changing World**, 1<sup>st</sup> Edition (2013) or 2<sup>nd</sup> Edition (2014) or 3<sup>rd</sup> edition (2018), by Houtman, Karr, and Interlandi, published by W.H. Freeman. Any edition is acceptable for class.

#### Purchase the textbook from one of the following:

1. A course specific textbook from the publisher is available at Barnes and Noble on Ohio State's campus (1598 N. High Street, Columbus). The textbook can be purchased online from Barnes and Noble or by visiting the textbook section of the store. The textbook can be purchased or rented as either a loose-leaf copy or rented as a digital copy. The ISBN number for the book is 9781319059620.
2. **Or you can purchase or rent the textbook from <http://www.amazon.com/> or another retail site.**

### Delivery of Course Material to Students

Because each student has different preferences, we deliver class material (e.g., lectures, slides, videos, syllabus, notes, etc.) to students using two different platforms: Carmen or U.OSU.EDU. You should select either of these platforms to use during the semester to download the same class material.

1. **Carmen** – Class content will be delivered through Carmen. The material for class will be provided in the Content tab of Carmen. This material (e.g., watch videos, slides, notes) is the same material that you can download from u.osu.edu.
2. **U.OSU.EDU** - Class content is also available through u.osu.edu. A class page has been established for ENR2100 at: <http://go.osu.edu/enr2100>. You can use this class page to download all the material for class. This material (e.g., recorded lectures, watch videos, slides, notes) is the same material that you can download from Carmen.

## Course Technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/locations>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** [8help@osu.edu](mailto:8help@osu.edu)
- **TDD:** 614-688-8743

### Required Software:

- **Microsoft Office 365:** All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

## GRADING AND FACULTY RESPONSE

### Final Grade

Your final grade will be based on 1 Midterm Exam, 1 Final exam, 5 Quizzes (lowest score dropped) and 5 Poster Assignments. See the break down below for % of each component.

### How your Grade is Calculated

ASSIGNMENT CATEGORY	PERCENTAGE
1 Midterm Exam	25 %
1 Final Exam	25 %
5 Poster Assignments	25 %
5 Quizzes (lowest score dropped)	25%
<b>Total</b>	<b>100 %</b>

**Exams will be Taken on Carmen (<https://carmen.osu.edu>):**

Examinations may consist of true/false, multiple choice, short answer, and essay questions. **All exams will be taken on-line using Carmen. Exams can be taken anywhere on Earth. Exams are open-book. Exams must be taken on your own without assistance from another person. Exams will**

be open on Carmen for approximately 48 hours. An exam can be taken anytime during these 48 hours. You will be given **1 Attempt and 100 minutes** to complete the exam. The exam will consist of approximately **50 multiple-choice questions**. You can go forward and backward at any time during the exam. If you fail to complete the exam on Carmen before it closes you will earn a grade of 0%. **The exam timer can NOT be paused**. Therefore, you **MUST** take the exam immediately after you press the exam's Start Button because the exam timer will run continuously for 100 minutes and then automatically close the exam. You will NOT come to a classroom to take the exam. Rather, you take the exam from a location of your choosing that has Internet connection (e.g., dorm room, library). A significant number of exam questions will come from material presented in lecture videos. Additional material will be drawn from assigned readings and videos. Each student must complete the exam on her or his own. You are NOT permitted to receive assistance from anyone else during the exam. You are NOT permitted to take exams as part of a group. You ARE permitted to use notes, slides, calculator, textbook, journal articles, books, and Internet during the exam. Additional details will be provided during the semester.

There are **NO** make-up exams except for valid reasons (e.g., medical excuse). *If you are sick, you MUST have a note signed by your medical doctor (i.e. a licensed physician) and **dated the same day as the exam and excusing you from the entire period (e.g., 72 hours) that the exam is open.*** Otherwise, you will receive a zero on the exam. **Dr. Lower will determine if your excuse is valid. If you do NOT have a reasonable excuse for missing an exam, then you will receive a ZERO for the exam.** Approved make-up exams will consist of multiple choice, short-answer and essay questions.

### **Quizzes will be Taken on Carmen (<https://carmen.osu.edu>):**

Questions in the quizzes will be based on assigned readings and videos. **Quizzes will be open on Carmen for at least 1 week and you can take the quiz any time during this week. Each quiz will consist of 10-20 multiple choice questions that focus on assigned readings, videos and websites. Quizzes are open-book (e.g., student can use the Internet, articles, notes, videos, calculator, Google, books). You will be given 1-2 hours to complete the quiz on Carmen with 2 attempts. Dr. Lower keeps the highest grade of your 2 attempts. If the quiz closes before you complete it, you will earn a grade of 0%.** You will take these quizzes online using Carmen. Each quiz is worth an equal number of points. You are NOT permitted to receive assistance from anyone else during the quiz. You are NOT permitted to take quizzes as part of a group.

Quizzes are intended to allow a student to explore an environmental topic or issue in much more detail than we do in lecture. Quizzes will expose students to current research that is being conducted and policies that are being implemented to solve some of our most challenging environmental problems. Quizzes are designed to stand on their own and not directly test a student on materials that we cover in lecture. Therefore, quizzes can be taken at any time during the semester.

Quizzes consist of questions about articles that a student reads and video documentaries that a student watches prior to starting a quiz. Links to the articles and videos will be provided to a student so that she or he can read or watch them prior to starting the quiz. Articles and videos will all be free to the student. Students may also be asked to obtain data and information from the websites of government agencies, universities and nonprofit organizations.

## Scientific Poster Presentation

You will design, construct, and present a scientific poster to your classmates. First, you must pick a topic related to environmental science. Next, you should read at least 10 articles from well-respected sources (see example list below or use any of the sources that [@OSUEnViRo](#) is currently following on Twitter), which are related to this topic. After reading these articles, you will design and construct a poster describing the topic.

**Examples of Primary Source Journals:** Biological Conservation, Chemical & Engineering News, Ecology, Environmental Science & Technology, Proceedings of the National Academy of Sciences USA, Science, Nature.

**Examples of Secondary Source Newspapers:** BBC, New York Times, Washington Post, Chicago Tribune, Columbus Dispatch, NPR, PBS.

Examples of student posters are available at: <https://go.osu.edu/posterday>

## Course Grading Scale

93.00-100: A	80.00-82.99: B-	67.00-69.99: D+
90.00-92.99: A-	77.00-79.99: C+	60.00-66.99: D
87.00-89.99: B+	73.00-76.99: C	0.00-59.99: E
83.00-86.99: B	70.00-72.99: C-	

## Instructor Feedback and Response Time

### Communicating with Students:

Weekly announcements will be posted on Carmen. Announcements and news items may also be posted on Twitter: [@OSUEnViRo](#)

Dr. Lower has created an OSU Email account specifically for this class: [ENR2100@osu.edu](mailto:ENR2100@osu.edu) and you should email Dr. Lower if you have questions about class. Dr. Lower will use your **OSU Email account** to communicate with you.

### Teaching Assistants (TAs):

Our teaching assistants are dedicated to your success. Many of them have already taken ENR2100 and earned high grades so they know what it takes to be successful in our class and they are willing to help you have an excellent educational experience. Times and locations for Office Hours will be posted on Carmen.

## OTHER COURSE POLICIES

## Academic Integrity Policy

### OHIO STATE'S ACADEMIC INTEGRITY POLICY

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct. You should review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

**If the instructor suspects that a student has committed academic misconduct in a course, then they are obligated by University Rules to report their suspicions to the Committee on Academic Misconduct (COAM).** If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact the instructor.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* ([www.northwestern.edu/uacc/8cards.htm](http://www.northwestern.edu/uacc/8cards.htm))

## Copyright Disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

## Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against

other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at [titleix@osu.edu](mailto:titleix@osu.edu)

## Your Mental Health

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the College of Pharmacy Office of Student Services in room 150 Parks Hall (614-292-5001) OR OSU Counseling and Consultation Services (614-292-5766) for assistance, support and advocacy. This service is free and confidential.

## ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

### Requesting Accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately by email ([ENR2100@osu.edu](mailto:ENR2100@osu.edu)) as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services (SLDS) at [614-292-3307](tel:614-292-3307) or [ods@osu.edu](mailto:ods@osu.edu) to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University. Go to <http://ods.osu.edu> for more information.

### 8 Common SLDS Accommodations

#### 1. Extended Time (1.5x or 2x) for Exams: SLDS-REGISTERED STUDENTS SHOULD EMAIL THEIR EXTENDED TIME PLAN TO DR. LOWER

A student MUST send their completed SLDS paperwork to [ENR2100@osu.edu](mailto:ENR2100@osu.edu) and Dr. Lower will adjust assignments to the appropriate extended time.

#### 2. Extended Time for Quizzes: ALREADY PROVIDED TO ALL STUDENTS

We already provide all students with 6X-extended time for all quizzes. If a student requires more than 6X-extended time, then they should contact Dr. Lower at [ENR2100@osu.edu](mailto:ENR2100@osu.edu)

#### 3. Note Taking Assistance/Recording: ALREADY PROVIDED TO ALL STUDENTS

Full typed transcripts for all lectures on YouTube for free to all students. Students can copy/paste the entire written transcript anytime, anywhere using any word processing software (e.g., Microsoft Word) directly from YouTube for all lectures. These transcripts serve as written notes for all lectures. We

provide typed short-hand notes for Week 1 Lectures and Week 2 Lectures to all students. All class materials, slides, videos, articles, links, instructions, etc. are provided to all students on Carmen. All class materials can be downloaded from Carmen.

#### **4. Computer/Word for Essay Exams: WE DO NOT HAVE ESSAY EXAMS**

We do NOT have essay exams. All exams consist of matching, multiple-choice, fill-in-in the blank and short answer questions. All exams are taken on Carmen using a computer.

#### **5. Scribe for exams and quizzes: STUDENTS CAN TAKE EXAMS AND QUIZZES AT SLDS**

We already allow this for all students because all quizzes and all exams for class are taken on Carmen from anywhere on Earth. Therefore, students who are registered with Office of Student Life Disability Services (SLDS) and require a scribe should make their own accommodations with SLDS.

#### **6. Distraction Reduced Testing Space, Small Group Setting: ALREADY PROVIDED TO ALL STUDENTS**

We already allow this for all our students. Students take all quizzes and all exams on Carmen from anywhere on Earth and so students who are registered with Office of Student Life Disability Services (SLDS) and require distraction reduced testing space should make their own accommodations.

#### **7. Closed-captioning lectures: ALREADY PROVIDED TO ALL STUDENTS**

We already provide closed-captioning videos for all lectures on YouTube for free for all students. The vast majority (greater than 90%) of our video documentaries from other organizations and institutions (e.g., The New York Times, PBS, NPR, Science, Nature, National Geographic) that we watch during class are already closed captioned. If you find a video that is not closed captioned in the course and are having trouble with the video, you should contact us for assistance.

#### **8. Flexible due dates for quizzes, exams and assignments: ALREADY PROVIDED TO ALL STUDENTS**

We already provide flexible quizzes, exams and assignments to all students. All quizzes, exams and assignments are open on Carmen for a period of days to weeks for all students. Students can complete these quizzes, exams or assignment at any time while the window is open. For example, if an exam is open March 1st, 2nd and 3rd then a student can take the exam anytime on March 1st, 2nd or 3rd.

## **CLOSING REMARKS**

The due date for each quiz, assignment and exam will be provided on Carmen. If you miss the due date FOR ANY REASON, you earn 0%. Quizzes and assignments will be open on Carmen for about 1 week and exams will be open on Carmen for about 48 hours. Do NOT wait until the last hour to complete these quizzes, exams and assignments. Technical glitches such as a bad Internet connection, bad Internet browser, a computer that “crashes”, a battery that runs out of power, etc. are NOT acceptable excuses for missing a deadline and you will earn a grade of 0%. Dr. Lower will NEVER accept an

assignment, quiz or exam by Email. Assignments, quizzes and exams should ALWAYS be submitted through <https://carmen.osu.edu>.

If you are having connection problems with CARMEN then the VERY FIRST thing that you should try is another web browser such as Firefox, Explorer, Chrome, and Safari. If you are having difficulty opening a document or viewing an image or any other issue associated with this class, then it is most likely a problem with your computer, Internet connection or Internet browser. EVERYTHING for this class has already been thoroughly tested by thousands of students from all over the world to ensure that it works. Occasionally we do make mistakes, and when we do, we will ALWAYS make it right. We work very hard to provide you with EVERY OPPORTUNITY to succeed in this class. However, the ultimate responsibility to succeed rests with you the student.

**Based on the experiences of previous students who performed very well in ENR2100, it is our recommendation that you spend 8-12 hours per week working in this class (e.g., attending lecture, taking notes, reading course material, taking quizzes, completing assignments, studying for exams).**

## CLASS CALENDAR FOR SP20

Week	Topic	Assignments
Week 1 (1/6-1/10)	Introduction to Environmental Science	Introductory Discussion Carmen Scavenger Hunt Quiz 1
Week 2 (1/13-1/17)	Scientific Process	Plagiarism Quiz
Week 3 (1/21-1/24)	Persistent Pollutants	Poster Title, Abstract, References Quiz
Week 4 (1/27-1/31)	Human Population	Quiz 2
Week 5 (2/3-2/7)	Energy & Ecosystems	Completing a Poster Section Assignment
Week 6 (2/10-2/14)	Population Ecology	Quiz 3
Week 7 (2/17-2/21)	Earth's Climates & Biomes	Mid-semester, Course Survey Midterm Exam (covers weeks 1-7)

Week 8 (2/24-2/28)	Freshwater Resources	Quiz 4
Week 9 (3/2-3/6)	Protecting Earth's Freshwater	Poster First Draft
(3/9-3/13)	<b>Enjoy your Spring Break!</b>	
Week 10 (3/16-3/20)	Protecting Earth's Atmosphere	Quiz 5
Week 11 (3/23-3/27)	Environmental Cost of Coal	--
Week 12 (3/30-4/3)	Environmental Cost of Petroleum	Poster Final Draft
Week 13 (4/6-4/10)	Alternative and Renewable Energy	--
Week 14 (4/13-4/17)	Alternative and Renewable Energy	Poster Symposium, Peer Reviews
(4/22-4/28)	Finals Week	Final Exam (covers weeks 8-14)