Environmental Biology: Molecules and Cells

Department of Environmental Science & Policy
Lecture: EVPP210-001 (CRN 18251)
Spring 2023, MW 10:30-11:45 am
David King Jr. Hall (DKH) 2053

Lecture Instructor:
Name: Dr. Esther Peters
Email: epeters2@gmu.edu, Cell Phone: 703-624-0143
Office Hours: By Appointment (Send e-mail to schedule)
Format: F2F

Learning Assistant:
Name: Fae Jensen
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Office Hours/Review Sessions: TBD

Lab Sections:
Instructor: Samantha Mohney
Email: smohney@gmu.edu
Lab Location: DKH 3021
Format: F2F

Required Materials:
Textbook (Free!): https://openstax.org/details/books/biology-2e
Laboratory Manual: Introductory Cell Biology Laboratory Manual (Required)
Access to course material on Blackboard at https://mymasonportal.gmu.edu
Download Respondus Lockdown Browser on your laptop for taking exams (see page 4 of this syllabus for information)
Bring laptop computer and notebook to class for taking notes, doing research, and taking exams; lectures will not be recorded, you may record the lectures

Course Description:
The goal of this course is to give students core knowledge of molecular and cellular biology that is critical for understanding the relationship between living organisms and their environment. Much of the biology encountered in upper-level environmental science courses at GMU will be based on information from this class. The basic principles will be taught by lectures listed below and will be based on material in the textbook. Lecture material will be presented with PowerPoint and may contain some material not found in the textbook. The lecture schedule is subject to change based on progress. Questions or comments to the instructor are encouraged in class but I may communicate with students by email so every student must have an active GMU email account. Please note that lecture and laboratory are linked (grade is based on performance in both), so they must be taken concurrently and require similar levels of understanding about the key concepts of environmental biology. The lecture section will highlight each week's reading and study assignments; the laboratory section will provide further explanation and experimental investigations of key concepts.

Course Organization:

Three lecture exams covering specific sections of the material will be administered during the semester and a cumulative final exam will be administered during the scheduled final examination period. All exams are multiple choice worth 100 points each. One lowest exam score will be dropped (does not include final). No make-up exams are allowed. Students missing an exam because of illness or any other reason will have that particular exam score automatically dropped. *The purpose of the dropped exam is to offset bad days, flat tires, illness, or other unexpected absences*.

5–8 case studies will be completed alone or in groups during class time. Each case study will count for 10 pts. The lowest case study grade will be dropped. This is to account for unforeseen absences. There are no makeups and case studies cannot be completed at home or outside of class time. Information from these case studies could show up on the exam. Case studies can occur during any class period so make sure to always attend class.

If you are a student with a disability and you need academic accommodations, please see Dr. Peters and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS.

If you develop a prolonged physical illness or mental health issue or are dealing with circumstances that may require class absences, please contact Dr. Peters immediately so we can discuss options and get you the help you need.

Course Policies:

All students are expected to maintain the GMU honor code by practicing ethical behavior and submitting original work. To assist with another student's unethical behavior is also a violation of the honor code. Remember, the honor code protects your hard work and the value of your degree from GMU. Please turn off cell phones or pagers before class begins. If using electronic devices (such as phones, laptops, tablets), please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions can affect your grade. Unless otherwise noted by the instructor prior to the exam, these assessments will be taken without the use of study aids, memoranda, textbooks, other books, data, or other information available. The purpose of these assessments is to evaluate the student's progress in understanding the material. There should be nothing on your desk except a pencil and a bottle of water when taking exams.

E-mail policy: I do not respond to emails in the evenings (after 5 pm) or during the weekends, nor do I expect you to. Also, please allow at least 48 hours for a response. Therefore, please be proactive in figuring out what questions you have and do not leave things until the day before an exam or assignment.

See https://www.gmu.edu/safe-return-campus if you have questions about COVID-19.

Name and pronoun use: If you wish, please share your name and gender pronouns with me and indicate how best to address you in class and via email. I use she/her for myself and you may address me as "Dr. Peters" in email and verbally.

Disclaimer: The instructor reserves the right to make modifications to this information throughout the semester.

Course Grading:

Three lecture exams*	+100 points each
Cumulative final	+100 points
Case Studies*	+50 points
Lecture total	**350 points**
Laboratory total	+150 points
Course total	**500 points**

*Lowest score dropped

Number Grade	Letter Grade
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
70-76	C
60-70	D
<60	F
A CURVE WILL NOT BE APPLIED	

Schedule of Lectures*:

See also Academic Calendar (https://registrar.gmu.edu/calendars/spring_2023/)

Week	Days	Topic
1	Jan 23	Course Intro (Lecture 0)
	Jan 25	The Scientific Method (Lecture 1)
2	Jan 30	The Scientific Method
	Feb 1	*Case Study 1: Disappearing Marine Iguanas*
3	Feb 6	What is Life? (Lecture 2)
	Feb 8	Small Molecules (Lecture 3)
4	Feb 13	Proteins, Carbohydrates, and Lipids (Lecture 4)
	Feb 15	Proteins, Carbohydrates, and Lipids
5	Feb 20	*Case Study 2: Curly and Straight Hair*
	Feb 22	**Review Session**
6	Feb 27	**Exam 1**
	Mar 1	Nucleic Acids (Lecture 5)
7	Mar 6	Cells (Lecture 6)
	Mar 8	Cells
8	Mar 13	**Spring Break – No Classes**
	Mar 15	
9	Mar 20	Cell Membranes (Lecture 7)
	Mar 22	*Case Study 3: Cell Membranes*
10	Mar 27	Cell Signaling (Lecture 8)
	Mar 29	*Case Study 4: Cell Signaling*
11	Apr 3	**Exam 2**
	Apr 5	Energy, Enzymes, and Metabolism (Lecture 9)
12	Apr 10	Pathways that Harvest Energy (Lecture 10)
	Apr 12	*Case Study 5: Cell Respiration*
13	Apr 17	Photosynthesis (Lecture 11)
	Apr 19	*Case Study 6: Killing Chloroplasts*
14	Apr 24	From DNA to Protein (Lecture 12)
	Apr 25	*Case Study 7: The Sound of DNA*
15	May 1	**Exam 3**
	May 3	TBD
	May 10	**Final Exam** (10:30-1:15)

LockDown Browser Requirement
This course requires the use of LockDown Browser for online exams. Watch this video to get a basic understanding of LockDown Browser:

https://www.respondus.com/products/lockdown-browser/student-movie.shtml

Download Instructions
Download and install LockDown Browser from this link:

https://download.respondus.com/lockdown/download.php?id=133435885

Once Installed

- Start LockDown Browser
- Log into Blackboard Learn
- Navigate to the exam

Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

Guidelines
When taking an online exam follow these guidelines:

- The exam must be taken in the regular classroom or in the Disability Testing Center
- Turn off all mobile devices, phones, etc. and don't have them within reach
- Clear your area of all external materials - books, papers, other computers, or devices
- Remain at your desk or workstation for the duration of the test
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

Getting Help
Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues.
- Respondus has a Knowledge Base available from support.respondus.com. Select "LockDown Browser & Respondus Monitor" as the product to view helpful articles.
- If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it.