Environmental Biology: Molecules and Cells

Department of Environmental Science & Policy
Lecture: EVPP 210-001 (CRN 74597)
Fall 2024, MW 9:00-10:15 am
Horizon Hall, Room 2017

Lecture Instructor:
Name: Dr. Esther Peters
Email: epeters2@gmu.edu, Office Phone: 703-993-3462, Cell Phone: 703-624-0143
Office Hours: By Appointment (Send e-mail to schedule)
Format: F2F

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

Sign up for Mason Alert (e.g., weather closings, emergencies) at **https://alert.gmu.edu**

See Emergency Preparedness Guides at **READY.GMU.EDU**

*Please note that the syllabus may need to be changed after the start of the semester. Check your GMU e-mails and Blackboard announcements frequently and respond to requests!

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 5 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. 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:
You will take three lecture exams covering specific sections of the material during the semester and a cumulative final exam during the scheduled final examination period (see Dr. Peters if you have more than two final exams scheduled on the same day). All exams are multiple choice worth 100 points each. One lowest exam score will be dropped (NOT THE FINAL). *The purpose of the dropped exam is to offset bad days, flat tires, or other unexpected absences*. If you must miss an exam due to illness, please contact Dr. Peters by email PRIOR TO the exam and send her a note from a medical professional before you return to class. The missed exam will be rescheduled for you to take as soon as possible.

Six case studies will be completed alone or in groups during scheduled class times. 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 (unless permission is given by Dr. Peters). Information from these case studies could show up on the exam.

The calendar of religious holidays and observations is posted here (https://ulife.gmu.edu/religious-holiday-calendar/). Please let Dr. Peters know in advance if any religious observances affect your participation in class activities and assignments.

If you are a student with a disability and you need academic accommodation, please see Dr. Peters and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodation 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 Preparation:
"He who hesitates is lost...." Reading, research, and assignments are detailed on the following class schedule. Any concerns about keeping up with assignments should be discussed with Dr. Peters. More students are juggling work, research, internships, shadowing, families, and illnesses. Please note that employment must not take priority over academic responsibilities. Students employed more than 20 hours a week are strongly urged not to attempt a full-time academic load. Students employed more than 40 hours a week should attempt no more than 6 credits per semester. Please consider your responsibilities and interests and plan accordingly to protect your health and GPA!

Course Policies:
All students are expected to maintain the GMU honor code by practicing ethical behavior and submitting original work. To assist 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.

Email:
Students are required to use their GMU email accounts for all class-related communications. Students are encouraged to have a professional email signature. Please check your email often and respond to queries from Dr. Peters. If you have questions about the content for a missed class, please contact your classmates. If you are not getting messages, please send Dr. Peters an alternate email address. You can **Send Email** to the instructor or classmates in Blackboard. Dr. Peters will send updates on how to continue learning by email if the campus is closed. 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. Student communication of e-mail information (Opt-in Form): https://provapps.gmu.edu/OptInApp/Default.aspx

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.

Sexual Harassment, Sexual Misconduct, and Interpersonal Violence:
George Mason University is committed to providing a learning, living, and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence to promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. University Policy 1202: Sexual Harassment and Misconduct speaks to the specifics of Mason's process, the resources, and the options available to students. As a faculty member and designated "Responsible Employee," I am required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per university policy 1412. If you wish to speak with someone confidentially, please contact the Student Support and Advocacy Center (703-380-1434) or Counseling and Psychological Services (703-993-2380). You may also seek assistance from Mason's Title IX Coordinator (703-993-8730; titleix@gmu.edu).

Other Useful Campus Resources:
Many are now available to students, including the University Writing Center, Learning Center, Libraries, Counseling and Psychological Services. Please go to: https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-support-resources-on-campus/ and click on the one you need for the most up-to-date information!

TIMELYCARE: Mason students now have FREE access to TimelyCare – a virtual mental health and well-being platform crafted specifically for college students, providing a multitude of virtual mental health and well-being resources available 24/7. Find out more about the resources available online at Timelycare.com/gmu or download the app.

Course Grading:

Three lecture exams*	+100 points each
Cumulative final	+100 points
Six 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	August 26	Course Intro (Lecture 0, Chapter 1)
	August 28	The Scientific Method (Lecture 1, Chapter 1)
2	September 2	NO CLASS (LABOR DAY HOLIDAY)
	September 4	What is Life? (Lecture 2, Chapter 1)
3	September 9	*Case Study 1: Disappearing Marine Iguanas*
	September 11	Small Molecules (Lecture 3, Chapter 2)
4	September 16 September 18	Macromolecules: Proteins, Carbohydrates, and Lipids (Lecture 4, Chapter 3, 3.1-3.4)
5	September 23	*Case Study 2: Curly and Straight Hair*
	September 25	**Review Session**
6	September 30	**Exam 1**
	October 2	Energy, Enzymes, and Metabolism (Lecture 5, Chapter 6)
7	October 7	Cells (Lecture 6, Chapter 4)
	October 9	Cells and Cell Membranes (Lectures 6,7, Chapter 5)
8	October 14	*Case Study 3: Cell Membranes* ***HOMEWORK***
	October 16	Librarian Scientific Writing Workshop, In Class Writing
9	October 21	Cell Signaling (Lecture 8, Chapter 9)
	October 23	*Case Study 4: Cell Signaling*
10	October 28	**Review Session**
	October 30	**Exam 2**
11	November 4	Nucleic Acids (Lecture 9, Chapter 3.5)
	November 6	Respiration: Pathways that Harvest Energy (Lecture 10, Chapter 7)
12	November 11	*Case Study 5: Cell Respiration*
	November 13	Photosynthesis (Lecture 11, Chapter 8)
13	November 18	*Case Study 6: Killing Chloroplasts*
	November 20	From DNA to Protein (Lecture 12, Chapter 15)
14	November 25	**Review Session**
	November 27	NO CLASS (THANKSGIVING HOLIDAY)
15	December 2	NO CLASS (STUDY for EXAM 3)
	December 4	**Exam 3**
16	December 9	The Cell Cycle and Cell Division (Lecture 13, Chapters 10, 11) **and** Course Evaluation Completion
	December 16	**Final Exam (7:30-10:15 A.M.)**

Green = 200-level courses student evaluations Yellow = Withdrawal period

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:

- You may take the exam in any quiet, private space (home or dorm room, Disability Testing Center, classroom)
- 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.

IF YOU HAVE A PROBLEM ACCESSING THE EXAM WHEN YOU ARE SUPPOSED TO START IT, CALL DR. PETERS (703-634-0143)!

IF YOU HAVE A PROBLEM DURING THE EXAM, CALL DR. PETERS!