Biology and Society – BIO 396 – 3 credits
University of Rhode Island – Summer 2026
In-Person 6:00 PM – Swan Room 201
Dr. Scott Ruhren

Date	Topic	Readings & Assignments
Week 1 –		
6/22	Course introduction – *"The burden of proof," society's role etc.* Scientific methods, language, integrity, ethics,	
6/24	*Too much – Overabundance* Invasion biology, population growth and decline	Student Presentations (plus weekly reflection)
Week 2 –		
6/29	Agriculture strategies, changes and threats – *Improvements* Judgments, decisions and objectives	Student Presentations (plus weekly reflection)
7/1	Environmental issues – *Involvement, behaviors, hype* Environmentalism, "going green," etc.	
Week 3 –		
7/6	Human health and disease – *Fears, success, future* Ecology and evolution	Student Presentations (plus weekly reflection)
7/8	Biological and environmental ethics –*Define and critique*	
Week 4 –		
7/13	Too little – *Rarity* Ecology of population growth and decline	Student Presentations (plus weekly reflection)
7/15	Technology in a modern world – *Pros and Cons*	
Week 5 –		
7/20	Climate change – *History, causes, impacts* Paleontology, climatology and ecology	Student Presentations (plus weekly reflection)
7/22	Climate change – *Solutions, the future?*	

Course Description: This course focuses on understanding the impact of biological discoveries on societal questions and the social influences that affect biological discovery. We will discuss how biology shapes our lives, including human evolution, health and disease, conservation and global climate change. We will integrate across multiple levels of biological organization from molecules to biomes in order to understand how biological mechanisms influence our daily lives. Students will read and discuss primary scientific literature and popular science content (e.g. magazines, newspapers, blogs and books) related to biology and society. To demonstrate information literacy, students will conduct independent research to produce a final project (e.g. poster or video) and accompanying short paper, giving students the opportunity to apply creatively their knowledge, research skills, and critical thinking abilities to a broad, integrative question in biology and society.

Pre-requisites: Junior or senior standing in Biological Sciences (BS), Biology (BA) or Marine Biology (BS).

Course Goals:

- To provide students with a working understanding of the reciprocal relationship and influences of biology and society, specifically exploring how biology shapes our lives.
- To foster critical thinking skills through reading and critiquing the scientific literature, and participating in and leading class discussions.
- To expose students to the scientific process and increase scientific and information literacy.
- To better understand how biological principles apply to humans and our influence on the natural world.

Relationship to the URI General Education Program:
Successful completion of BIO 396 results in full coverage of two outcomes in the URI general education program: Information Literacy (B4) and Integrate and Apply (D1).

Learning Outcomes: At the end of this course, you will be able to:

- Identify key biological concepts and their importance in the context of human society.
- Evaluate data, arguments, and conclusions in scientific papers and formulate new hypotheses based on readings from the scientific literature.
- Collect literature, data, and media on a specific biological topic.
- Apply biological and evolutionary concepts to novel examples from the scientific literature.
- Demonstrate knowledge of biological and evolutionary mechanisms and how they affect our lives.

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Grading:

Distribution of Points		Approximate Grade Cutoffs	
Reflections	30% (5 x 6)	≥ 90%	= A- to A
Presentations	60% (30 x 2)	80-89%	= B- to B+
Portfolio	10%	70-79%	= C- to C+
		60-69%	= D- to D+
Total Possible	100%	< 60%	= F

Attendance: Seminar courses depend on attendance. **Documented medical illnesses, emergencies, observance of religious holidays or participation in university-sanctioned athletics or events are the only valid excuses for missing classes and deadlines.** Students are responsible for all missed work. Missed assignments will count as a zero unless excused. In the event of illness, please make every effort to contact me before the missed class, and provide a doctor's note after the fact. Other excuses will be handled on a case-by-case basis. If you have a planned schedule conflict, please contact me as soon as possible. Finally, extra credit will not be available.

University emergencies: The University determines if classes will be canceled due to weather or other conditions. We will have plans to make up missed classes and work. Please follow announcements on the URI emergency contact system.

Academic Integrity: As a URI student, you have an obligation to conduct your academic work with honesty and integrity according to University standards. It is expected that all work that you submit will be your own. Cheating will not be tolerated in this course. It is unfair to your fellow students and it is disrespectful to your instructor. Should you be found to be guilty of cheating, you will receive a zero for that exam or assignment and a record of that misconduct will be filed with the Dean of Students office. In addition, other sanctions may include failure in or removal from this course or expulsion from the University. Should you observe a classmate engaged in academic misconduct, please bring it to my attention. For more information see the University Manual (http://www.uri.edu/facsen/MANUAL_06.html).

Special Needs and Outside Help: Students seeking academic assistance and with documented disabilities should inform the instructor as soon as possible so that accommodations can be made. Students should also contact Instructional Support and the Academic Skills Center. All situations are confidential. Their friendly staff of learning specialists and student tutors can help you find an approach to studying that suits your needs and schedule, develop effective study strategies, understand course concepts and practice productively.

Electronic Equipment: Please silence and put away phones during class time.

Graded Opportunities:

Student-led Discussions: Each student will be responsible for leading the classroom discussion of topics based on the syllabus. Students may choose to provide additional background information (e.g. videos) or lead an activity that illustrates important biological and societal concepts. You get to choose your topics by signing up in class or emailing me your top choices.

Course Portfolio: This is an electronic document where you will organize your assignments in chronological order for the entire semester. This will consist primarily of answering a set of questions. Most assignments will ask you to answer a set of questions about the readings. Beyond the questions posed for each chapter, you should also expand on your reflections. Plus, synthesize key concepts, define unfamiliar terms and concepts, make connections with your existing knowledge base, write out questions you have about the material to ask in class, and review media, images, videos, websites, and other resources relevant to the topics covered in each class.

You can make corrections and revisions to your assignments before submitting the portfolio. The course portfolio is 10% of your grade, and it is expected that each assignment is complete and uploaded on time. Keep a copy of your portfolio on your computer (and back-up your computer daily), add the next assignment and upload new updated version being sure to rename the document as described above.

Illness: (Masks are optional in class.) If any of us develop flu-like symptoms, we are being advised to stay home until the fever has subsided for 24 hours. So, if you exhibit such symptoms, please do not come to class. Notify me of your status. We will work together to ensure that course instruction and work is completed for the semester. The Centers for Disease Control and Prevention have posted simple methods to avoid transmission of illness. These include: covering your mouth and nose with tissue when coughing or sneezing; frequent washing or sanitizing your hands; avoiding touching your eyes, nose, and mouth; and staying home when you are sick. For more information URI Health Services web page, www.health.uri.edu <http://www.health.uri.edu>, will carry advice and local updates.