

OCG106G: A1, B4

YOU, ME, AND LIFE IN THE SEA

Example Syllabus

Instructor: Dr. Kelton McMahon

University of Rhode Island, Graduate School of Oceanography



Course Description and Goals:

The Ocean makes life on Earth possible. For millennia, humans have developed a rich, complex relationship with life in the Sea. This course uses classic and current case studies to explore human-marine organism interactions, both positive and negative, across diverse disciplines and perspectives, including: Climate Change, Microbes and Ecosystem Health, Biotechnology, Marine Plastics, Fisheries/Aquaculture, Marine Conservation, Bioprospecting, and Environmental Pollutants. Our goals in this course are two-fold: 1) to explore the causes and consequences of the diverse and complex relationships between humans and life in the sea, and 2) to develop skills in literature research and communication to promote science education. We will accomplish these goals through lectures, in class active learning modules, and a semester-long group writing/presentation project). High school biology and chemistry courses are strongly recommended prior to taking this course.

Lecture Time and Place:

Tuesdays and Thursdays 9:30-10:45a.m.
Bliss Hall room 110

Instructor and TA:

Dr. Kelton McMahon (He/Him) – Instructor, kelton_mcmahon@uri.edu

2021 Fall Office Hours: Mon 1:00-2:00p.m. via zoom link below

Bio: Professor McMahon's lab studies how climate change and human-environment interactions influence food web dynamics and animal migration in the Ocean. He and his lab work around the world, including the Arctic and Antarctic, coral reefs in the Red Sea and Pacific Ocean, and coastal New England.



Office Hours: Bay Campus Coastal Institute Building, rm 335 M 1:00-3:00p.m.

Student Learning Outcomes:

This course meets General Education Outcomes A1 (STEM knowledge) and B4 (Information Literacy) with a Grand Challenges overlay. Through this course, students will exercise critical thinking, problem solving, and teamwork in both individual and group projects in order to:

Build knowledge of the interactions among diverse peoples, cultures and natural world

- Identify major themes in humans and marine organism relationships, both positive and negative, direct and indirect
- Make qualitative and quantitative observations about how the characteristics of marine organisms and ecosystems influence their relationships with humans
- Analyze trade offs in managing complex human-marine organism relationships from diverse perspectives (e.g., social, economic, environmental, cultural)

Develop competencies for academic and lifelong learning and communication

- Identify and utilize credible sources of information and evaluate relevance to research
- Write a properly cited research paper on complex topics with research across multiple disciplines
- Work individually and as a group to present findings on complex issues in written and oral formats to educate others

Grand Challenges: Interdisciplinary approach to understanding complex contemporary issues with ethical implications

Topics covered in this class wrestle with complex contemporary issues revolving around the coexistence of humans and marine organisms on Earth. Understanding these relationships requires knowledge and tools from diverse disciplines and perspectives. We will use readings and videos from major information disciplines, e.g., natural sciences, social sciences, economics, and health, to build a framework of knowledge for discussions and activities centered on the trade-offs within human-marine organism relationships. Throughout the course, students will learn how to use qualitative and quantitative methods to analyze problems and weigh potential solutions with consideration of societal impacts. It is critical to remember that tackling the complex issues of human-organism interactions has significant real world ethical implications for the livelihood and longevity of this planet and must be approached with a critical eye and an open mind to diverse perspectives.

Assignments and Grading Policy:

9 Module Quizzes: 10% total

5 In-class Activities: 30% total

2 Exams: 30% total

Marine Organism Project: 30% total (five activities)

Final grades (not individual assignments) may be evaluated on a “curve”, as needed.

A 93-100	B+ 87-89	C+ 77-79	D+ 67-69
	B 83-86	C 73-76	D 60-66
A- 90-92	B- 80-82	C- 70-72	F < 60

Class attendance: Attendance is required. Lecture material will be the primary source for all quizzes, in class activities, and exams. PDFs of lectures will be posted in their respective Brightspace modules before each lecture for you to download and use for notes during class. You are expected to attend and participate in class on Tuesdays and Thursdays 9:30-10:45a.m. If you are going to miss a class for an excused matter, such as illness, a university-sponsored commitment, religious holiday, etc., please notify the instructor via email as soon as possible (minimum one day before the absence) to schedule a viable make up plan.

Module quizzes:

Quizzes on material covered in class for each module will be available in Brightspace on Thursdays after class and due before the start of class (9:30a.m.) the following Tuesday. These quizzes are intended to reinforce topics discussed in lecture and encourage studying throughout the semester rather than cramming right before the exam. The question content and format serve as good practice for the exams. Each quiz is 6 multiple choice questions. The quizzes are open notes, but you must work independently. You will have 15 minutes to complete it and you may attempt the quiz only once. Please make sure you studied the module material, you have sufficient time to complete the quiz, and you have a good internet connection before starting the quiz. You may drop your lowest quiz score for the semester.

In Class Activities:

Throughout the semester, we will have five In Class Active Learning Activities to dive deeper into the issues and tradeoffs of complex human-ocean interactions. You will work in groups to analyze data, generate hypotheses, synthesize and report knowledge, and reflect on your relationship with the module topics. These assignments will be completed in class. Make-up assignments will be only be given with prior email approval before the assignment date.

Exams:

The course has two exams: Midterm (Oct 21st) and Final (Dec 16th). Both exams will be multiple choice and equal weight (15% each). Exams are not explicitly cumulative, though many of the topics we learn throughout the semester are connected to each other and covered in both exams.

Marine Organism Project:

Students will participate in a semester-long Marine Organism Project (MOP) with individual and team components. The goal of this project is to 1) explore the relationships between humans and a marine organism of your choosing and 2) develop skills in rigorous scientific literature research and communication (both written and oral formats). By the end of this project, you will better understand the complex relationships between humans and marine organisms and gain valuable skills in promoting science education. The project will consist of five activities:

Activity I: Library Research Module (individual): Due Thurs Oct 7th in Brightspace by 9:30a.m.

- Goal: Learn how to conduct rigorous scientific literature research on a variety of topics using URI Library resources and public information databases while maintaining academic integrity.
- Task: Watch a series of online modules from the URI Library and complete a Brightspace quiz.

Activity II: Choose a marine organism (individual and team): Due Tues Oct 19th in Brightspace by 9:30a.m.

- Goal: Apply research and practice compelling argument skills to identify a marine organism with important relationships with humans to study this semester.
- Task: Part 1) Individually identify a marine organism with strong relationships to humans (both positive and negative) and research, with proper literature citations, at least four compelling reasons for why that organism should be selected by your MOP team. Due in Brightspace by 9:30a.m. Tues Oct 19th. Part 2) Meet your MOP team in class on Tues Oct 19th to present your organism, vote on which organism your team will study for the research paper and presentation, plan your schedule for your team presentation, and submit your voting table in Brightspace before leaving class.

Activity III: Marine Organism Report (individual): Due Tues Nov 9th in Brightspace by 9:30a.m.

- Goal: Conduct rigorous scientific research on key aspects of the relationship between humans and your marine organism and present those findings in a research report.
- Task: Individually write a short report with proper literature citation (~1.5-2.5 pages, single spaced) on an assigned topic related to humans and your marine organism.

Activity IV: Team Oral Presentation (team): Presentation file due in Brightspace by 8p.m. Mon Nov 29th. Team Presentations in class Nov 30th, Dec 2nd, Dec 7th, Dec 9th.

- Goal: Educate the class on key aspects of the relationship between humans and your marine organism through an in-class team oral presentation.
- Task: Develop and deliver a team presentation (~12 mins) in class that will introduce your organism and explore its positive and negative relationships with humans.

Activity V: Reflection (individual): Team evaluations completed in class Nov 30th, Dec 2nd, Dec 7th, Dec 9th; Self-evaluations completed at home. All due Dec 14th in Brightspace by 9:30a.m.

- Goal: Develop skills in evaluation and constructive feedback to enhance science education.
- Task: Part 1) Team Evaluation: Watch team presentations of your fellow classmates and provide feedback on what they did well and what could they improve upon to promote science education. Part 2) Self Evaluation: Reflect on the strengths and areas of improvement for your group presentation and how that knowledge will impact your relationship with life in the sea in the future.

Extra Credit:

There are four opportunities for extra credit in this course, designed to encourage and reward effort above and beyond expectations. Extra credit points will be graded largely based on effort.

Marine Organisms in the News: Write a half page summary of a current (since 2020) news article (e.g., CNN, Times, BBC etc.) on a human-marine organism relationship and how it relates to concepts we cover in class. Each submission (max 2) will receive up to 5 pts of extra credit on either the midterm or final. If you have questions about whether an article is appropriate, ask the instructor. Due Thurs Dec 9th in Brightspace by 5:00p.m.

Marine Organism Project Activity IV: To encourage teams to practice your presentation ahead of time, each group that submits a recorded video of your team giving a practice presentation will receive 10 pts of extra credit on MOP Activity IV. Due Mon Nov 29th in Brightspace by 8p.m. (Google drive link acceptable)

IDEA Course Evaluation: Every student that submits an IDEA course evaluation earns 5 pts of extra credit on the Final Exam. Submit a screen-capture showing OCG106G IDEA Evaluation Submitted. The contents of the evaluation will remain anonymous. Due Tues Dec 14th in Brightspace by 11:59p.m.

Late Policy on Assignments:

All assignments must be completed and submitted to succeed in this class. Please stay on top of assignment deadlines, which are listed in the syllabus, in the Brightspace modules and calendar, and at the beginning of lectures. Extensions may be granted for extenuating circumstances, but you must receive instructor approval for an extension before the assignment is due. Missed assignments without prior instructor approval will not be accepted. I am happy to work with students to make sure everyone succeeds, but you must reach out for assistance before assignments are due. All activities and assignments must be submitted on time as a Microsoft document (.doc, .docx, .ppt, .pptx), Google doc (doc, slide), or PDF (.pdf) files. No other format will be accepted.

URI Policies:***Anti-Bias Classroom:***

We respect the rights and dignity of each individual and group. We reject prejudice and intolerance, and we work to understand differences. We believe that equity and inclusion are critical components for campus community members to thrive. We encourage healthy discussion that is supportive and inclusive of diverse backgrounds, experiences, and perspectives. If you are a target or a witness of a bias incident, you are encouraged to submit a report to the URI Bias Response Team at www.uri.edu/brt. There you will also find people and resources to help.

Academic Honesty and Integrity:

Students are expected to be honest in all academic work. Your name on any written or oral work, including quizzes, exams, in class activities, and MOP activities shall be regarded as assurance that the work is the result of your own independent thought and study. Work should be stated in your own words and properly attributed to its source. Students have an obligation to know how to quote, paraphrase, summarize, cite, and reference the work of others with integrity. If you have any doubt about what constitutes academic dishonesty, such as plagiarism, talk to your instructor and visit the URI Student Handbook and Sections 1.4, 8.27.10 – 8.27.21 of the University Manual (<https://web.uri.edu/manual/>). Additional assistance is available at the Writing Center and the Academic Enhancement Center. The following are examples of academic dishonesty.

- *Using material, directly or paraphrasing, from published sources (print or electronic) without appropriate citation*
- *Claiming disproportionate credit for work not done independently*
- *Unauthorized use of another's work or preparing work for another student*
- *Unauthorized possession or access to assignments, quizzes, and exams*
- *Unauthorized communication, notes, or devices to gain an unauthorized advantage during exams*
- *Taking an exam for another student*
- *Altering or attempting to alter grades*
- *Fabricating or falsifying facts, data or references*
- *Facilitating or aiding another's academic dishonesty*
- *Submitting the same paper for more than one course without prior approval from the instructors*

Disability Services for Students:

Your access to this course is important. Please send me your Disability Services for Students (DSS) accommodation letter early in the semester so that we have adequate time to discuss and arrange your approved academic accommodations. If you have not yet established services through DSS, please contact them to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom. DSS can be reached by calling: 401-874-2098, visiting: web.uri.edu/disability, or emailing: dss@etal.uri.edu.

Academic Enhancement Center:

While this is an introductory course, it deals with complex issues through multiple assignments. If you have questions or need help, be proactive. We will do everything we can to make sure everyone understands the material in the course, but we cannot help if you do not ask for it. We invite you to schedule office hours appointments with the instructor and/or TA. We also encourage you to visit the Academic Enhancement Center (AEC) in Roosevelt Hall - room 009 for the Writing Center, or room 411 for STEM tutoring and other programs. Please visit web.uri.edu/aec, or call (401) 874-2367, for more information.

COVID-19

URI is committed to delivering its educational mission while protecting the health and safety of its community, including minimizing the potential spread of COVID-19 within our community. While the university has worked to create a healthy learning environment for all, everyone is required to comply with standards of conduct and take precautions to keep themselves and others safe, including the Rhode Island Executive Orders related to health and safety, ordinances, regulations, and guidance adopted by the University as it relates to public health crises, such as COVID-19. Visit web.uri.edu/coronavirus/ for the latest information about the URI COVID-19 response. URI obligations include:

- Student Vaccination: All URI students are required to submit proof of vaccination or request an exemption.
- Universal Indoor Masks: Masks are required in class, regardless of vaccination status. You are encouraged to bring your own two-ply mask, but a limited supply of masks will be available should you need one. Students who do not comply may be reported through the Student Conduct process.
- COVID Testing: Students who are unvaccinated with an approved exemption will be required to participate in regular surveillance testing. Vaccinated students are not mandated but have full access to surveillance testing as well.
- COVID Absence Accommodations: Any student who is experiencing symptoms of illness should not come to class. Please stay in your home/room, self-isolate, and notify URI Health Services via phone at 401-874-2246. Please notify the instructor by email as soon as possible to arrange for make-up accommodations.

EXAMPLE CLASS SCHEDULE

Mod# = Module #, ICA = In Class Activity, MOP: Marine Organism Project

Week #	TUES	THURS
<i>Wk #1</i>		Sept 9, 2021: Module 1. Intro to Course and Human-Environment Interactions
<i>Wk #2</i>	Sept 14, 2021: Module 2. Fundamentals of Life Quiz Mod1 due in Brightspace by 9:30a.m.	Sept 16, 2021: Module 2. The Water Planet
<i>Wk #3</i>	Sept 21, 2021: Module 3. Climate Change I Quiz Mod2 due in Brightspace by 9:30a.m.	Sept 23, 2021: Module 3. Climate Change II
<i>Wk #4</i>	Sept 28, 2021: Module 3. Climate Change ICA ICA I: Climate Mitigation Strategies	Sept 30, 2021: Module 3. Wind Farms ICA ICA II: Wind Farm Literature Search MOP I: Assigned
<i>Wk #5</i>	Oct 5, 2021: Module 4. Microbes in the Ocean Quiz Mod3 due in Brightspace by 9:30a.m.	Oct 7, 2021: Module 4. Biotechnology MOP I: Due in Brightspace by 9:30a.m. MOP II: Assigned
<i>Wk #6</i>	Oct 12, 2021: Module 5. Phytoplankton Quiz Mod4 due in Brightspace by 9:30a.m.	Oct 14, 2021: Module 5. Phytoplankton ICA ICA III: Watersheds and Harmful Algal Blooms
<i>Wk #7</i>	Oct 19, 2021: MOP II - Organism Selection MOP II Part 1 in Brightspace by 9:30a.m., MOP II Part 2: In Class MOP III, IV, V: Assigned Quiz Mod5 due in Brightspace by 9:30a.m.	Oct 21, 2021: Midterm EXAM 9:30-10:45a.m. Covering Modules 1-5 (multiple choice)
<i>Wk #8</i>	Oct 26, 2021: Module 6. Marine Debris	Oct 28, 2021: Module 6. Marine Debris ICA ICA IV: Seabirds and Marine Debris
<i>Wk #9</i>	Nov 2, 2021: Module 7. Marine Fisheries Quiz Mod6 due in Brightspace by 9:30a.m.	Nov 4, 2021: Module 7. Marine Aquaculture
<i>Wk #10</i>	Nov 9, 2021: Module 8. Coral Reefs and Conservation MOP III: due in Brightspace by 9:30a.m Quiz Mod7 due in Brightspace by 9:30a.m.	Nov 10, 2021: Module 8. Coral Reefs and Conservation – ICA (WEDNESDAY CLASS) ICA V: Marine Protected Areas
<i>Wk #11</i>	Nov 16, 2021: Module 9. Environmental Pollution Quiz Mod8 due in Brightspace by 9:30a.m.	Nov 18, 2021: Module 9. Bioprospecting
<i>Wk #12</i>	Nov 23, 2021: Thanksgiving Week No Class Quiz Mod9 due in Brightspace by 9:30a.m.	Nov 25, 2021: Thanksgiving Week No Class
<i>Wk #13</i>	Nov 30, 2021: MOP Team Presentations MOP IV: Team Presentations in class MOP V: Part I in class	Dec 2, 2021: MOP Team Presentations MOP IV: Team Presentations in class MOP V: Part I in class
<i>Wk #14</i>	Dec 7, 2021: MOP Team Presentations MOP IV: Team Presentations in class MOP V: Part I in class	Dec 9, 2021: MOP Team Presentations MOP IV: Team Presentations in class MOP V: Part I in class
<i>Wk #15</i>	Dec 14, 2021: Reading Week – No Class MOP V: due in Brightspace by 9:30a.m.	Dec 16, 2021: Final Exam: 8:00-10:00a.m. Covering Modules 6-9 (multiple choice)