University of Massachusetts Dartmouth

School of Marine Science

MAR599: Special Topics: Marine Science and Ethics

Course Syllabus

**Instructors:** Dianne Quigley, PhD  Email: dquigley@umassd.edu

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**Communication Policy/How to get help:** The general policy is to communicate through discussion boards to participate in course dialogue. Assignments will be graded in a timely manner by the instructor and grades posted in the online grade center. If urgent questions arise please contact Dr. Quigley at the email listed above.

**Course credit:** 3

It is expected that each student post discussion topic responses each week and respond to discussions 2x minimal. There is an expectation that the student engage in this course a minimum of 4 days a week, with no scheduled on-line meeting times

**Format: On-Line**

**Course Description and Objectives**

Marine science and engineering researchers grapple with common ethical problems and dilemmas that challenge all academic sciences. Some of the ethical issues include the potential for data fabrication/falsification, conflicts of interest, human subjects violations, working with scientific uncertainty and values conflicts in marine conservation and fishing regulations. The National Science Foundation has made “Ethics Education” a priority for graduate students in these sciences. Science and engineering are global endeavors, introducing cultural differences, social and environmental contextual complexities, and professional pressures for funding and publication. Building ethical knowledge and ethical sensitivity for marine science research are critical learning skills for graduate students.

This new course for Marine Science Ethics is for graduate students in the marine science field, who expect to conduct marine science research. This course development has been funded through a grant from the National Science Foundation’s (NSF) Ethics Education in Science and Engineering (EESE) and collaboratively developed with The School of Marine Science and Technology and the Department of Bioengineering of the University of Massachusetts, Dartmouth and the Northeast Ethics Education Partnership (NEEP) at Brown University’s Center for Environmental Studies.

Students will gain ethics training in these topical areas: research integrity, human subjects protections, ethical challenges in marine science modeling, ethics of marine conservation and regulations, environmental ethics/sustainability in marine sciences, and intellectual property rights. Students will
learn about professional codes of ethics, types of moral reasoning for professional and research ethics, ethical theories and field guidance/perspectives from applied ethics articles/case studies.

This online course will provide students with video discussions of ethical issues in marine sciences, peer discussion boards, powerpoint lectures, case studies and applied ethics articles. Guest speakers will deliver material via online video pertaining to certain topics.

**Course Goals:**

To familiarize students with:

1. Types of Moral reasoning
2. Professional codes of ethics
3. Intellectual property rights

Providing them with the foundation to apply this knowledge to:

1. Ethical questions regarding marine science modeling, marine conservation and regulations
2. Issues regarding environmental ethics/sustainability in marine sciences

**Requirements**

1. **Attendance:** Attendance is monitored by the online discussion and response board and it is mandatory. Weekly questions related to the assigned material will require a response by the designated deadline. Additionally, you are required to comment to at least one other student response for each discussion board question. Because these discussions are monitored, they will be considered your attendance and will be directly applied to your class participation grade.
2. **Online Access:** *MyCourses* contains the necessary material for the class. You will use your UMass Dartmouth email and username and password to access *MyCourses*. The website can be accessed by typing in UMassd.edu in your browser.
3. **Completion of all assigned readings, papers, and take home exams.**

**Grading:**

Grading is based on responses to discussion board questions (25%), response papers for lectures (25%) midterm take-home (25%) final take home (25%)

**Academic Integrity Policy:** Any assignments including should be submitted on time. Late submissions will not be graded. A grade of “Incomplete” may be given only after a student requests it in exceptional circumstances at the instructor’s discretion.

Students should be aware that suspect assignments (e.g., those without works cited section, or with large departures in style) will be submitted to SafeAssign by the instructor for the purpose of detecting possible plagiarism. Submitted assignments will be included in the UMass Dartmouth dedicated databases of assignments. These databases of assignments will be used solely for the purpose of detecting possible plagiarism in the grading process during this term and in the future. Students must provide an electronic copy of their assignments to the instructor for submission to the service when plagiarism is suspected, in order to receive a grade on the assignment and to avoid possible sanctions.
**Students with Disabilities:** In accordance with University policy, if you have a documented disability and require accommodations to obtain equal access in this course, please meet with the instructor at the beginning of the semester and provide the appropriate paperwork from the Center for Access and Success Office. The necessary paperwork is obtained when you bring proper documentation to the Center for Access and Success Office, which is located in Woodland Commons; phone: 508-999-8711.

**Required Reading:**

Steneck, N.. 2007. *Introduction to the Responsible Conduct of Research.* Office of Research Integrity (Available on MyCourses)


***All other readings will be available through MyCourses***

**Class Schedule**

**September 9 -12:**

**Introduction: Overview of Ethics: Categories, Theories, Knowledges**

**Reading Required:**

*Harris et al* (textbook): Chapter Three: pp: 47-58

*Dallmeyer* (text) Chapter One: Human values, ethics, and the marine environment

Powerpoints: Overview of Ethics, Engineering Ethics, and Ethical Theories Folder (Liberal-Individualism, Utilitarianism/Consequentialism and Deontology)

**September 16 – 19:**

**Research Integrity Topics: Overview of Research Integrity and Scientific Misconduct**

**Reading Required:**

*RCR Text:* Part One: Shared Values: Rules of the Road and Research Misconduct


Powerpoint: Research Integrity

**September 23 – 26**
Professional Integrity: Conflicts of Interest and Whistleblowing

Reading Required:

*Harris et al* Text: Chapter One – Professional Ethics, Chapter Two – pp: 37-48
*RCR* Text: Part Two: Chapter 5

**Case Readings/Analyses in Professional Ethics, Data Falsification and Fabrication, Plagiarism and Authorship**

**September 30 – Oct. 3**

Common Morality/Common Rule for Human Subjects Protections

Individual and Group Protections

Reading Required:

*Harris et al* (text), Chapter Four: Resolving Problems (the Common Morality, Human Subjects)

*RCR* Text: Data Management Chapter


Powerpoint – “NEEP Common Morality for Environmental Studies and Engineers” “IRB Requirements for Human Subjects Review”

**October 7-10**

Animal Ethics/Protections and Introduction to Environmental Ethics

*Guest Lecture: Tracie Ferrreira, PhD*

Reading Required:

*RCR* Text: Part II: Chapter Four: Protection of Laboratory Animals
Kehinde, 2013. They see a Rat, We seek a cure for animal diseases: The Current Status of Animal Experimentation in Medical Practices

*Dallmeyer* (text) Chapters: Stephen R. Kellert -- Environmental ethics and marine ecosystems : from a "land ethic" to a "sea ethic"

**October 14 – 17**

Environmental Ethics in Marine Sciences

Reading Required:

*Dallmeyer* (text) Chapter: Clark Wolf -- Marine environmental ethics : where we might start
Heike K. Lotze1, Marta Coll1,2, Anna M. Magera1, Christine Ward-Paige1 and Laura Airoldi “ Recovery of marine animal populations and ecosystems” *Trends in Ecology and Evolution*, November 2011, Vol. 26, No. 11
***MID-TERM TAKE HOME IS POSTED OCT. 14, DUE OCT. 24

October 21 – 24

Ethics of Fishing Governance

No Reading Required with Midterm Take Home

Series of Video Talks

October 28 – October 31

Ethics of Fishing Governance (Continued)

Reading Required:


*Dallmeyer* (text) R.E. Johannes -- Perceptions of legitimacy in conflict between commercial fishermen and regulatory agencies : some ethical concerns


Ethics of Modeling in Marine Sciences

Reading Required:

*Dallmeyer* Text: Chapter - Michael B. Shilin ... [et al.] -- Roles and practices of the scientific community in coastal science : understanding values that underlie science


November 4 – November 7

Ethical Issues in Marine Sustainability

- Overview of Ethics and Sustainability
- Management of Marine Pollution

Reading Required:


**November 11 – November 14**

**Ethical Issues in Marine Sustainability (continued)**

- Coastal Development
- Climate Change

**Reading Required:**


**November 18 – November 21**

**Intellectual Property Rights, Software Proprietary Issues**

**Reading Required:** (TBA)

*Guest Lecture: Sankha Bhowmick, PhD*

**November 25 – November 27**

**Research with Place-based Communities/Cultural Groups**

- Community Partnerships/Collaborations for Marine Sciences

**Reading Required:**


[www.springer.com](http://www.springer.com)

**November 30 – December 2**

- Cultural Competence/Relativity and Environmental Justice
**Reading Required:**


Harding, Anna, B. Harper, D. Stone et al 2012. Conducting Research with Tribal Communities: Sovereignty, Ethics and Data-Sharing Issues” (Commentary), Environmental Health Perspectives 120 (1) : 6 - 10


****Final Take Home Exam Posted on December 2, 2014 due December 8, 2014****