

MARS 1011e – Spring 2016
Introduction to the Marine Environment
The physics, geology and chemistry of the marine environment

This course fulfills the Physical Sciences requirement.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.



Professor:

Dr. Clifton Buck

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Course objectives

This course will familiarize you with an earth system that influences your life every day. In addition, this course will provide you with the opportunity to understand the scientific process and the role of technology in supporting scientific study.

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

- Share the Seven Principles of Ocean Literacy
- Describe the physical, geological and chemical processes that define the ocean environment
- Explain the role of the oceans in regulating global climate
- Appreciate the ocean's importance as a natural resource
- Describe the relationship between land-based processes and the ocean system
- Evaluate how human activities are changing the ocean

eLC: This course will be managed through UGA's eLC. All videos, discussion boards and assignments must be accessed through eLC.

Course Syllabus

Textbook: Essentials of Oceanography, 11th Edition. Trujillo & Thurman. Pearson.

(ISBN 9780321930002). The text is required but you need not buy access to the eText and *Mastering Oceanography* although these options are recommended.

You may purchase directly from Pearson at <http://tinyurl.com/gtefyz8>

Changes to the Course Syllabus: The course syllabus is a general plan for the course; deviations from the syllabus when necessary will be announced on the eLC course site. **You are responsible for checking the site and your UGA email daily.**

Course Expectations

You Responsibilities as a Student:

- This course should take approximately 6 hours of work per week
- Participate! Engage with your fellow students within the discussion boards to enhance your learning experience and participation is worth 15% of your final grade
- Abide by the [Netiquette Policy](#)

My Responsibilities as an Instructor:

- Your instructor will be active in eLC at least five days per week
- Your instructor will provide a response to emails and discussion posts within 48 hours

How This Class will be Different from a Traditional Course:

Learning online is different than learning face-to-face.

- You have to be **self-motivated** and able to **work independently**
- You need to be **organized** to keep up with your work. Find a **routine** that works and stick to it
- Make sure you have the **required equipment**, have completed any **tutorials** and run all **system checks** before you begin the course
- Make sure you **commit enough time** to your course work
- Follow **communication expectations**. Use email, post to discussion, ask questions

Instructor Availability and Response Time. Your class interaction with your instructor and your classmates will take place in eLC on a regular, ongoing basis. Your instructor will be active in eLC at least five days per week and **you will normally communicate with your instructor in the open eLC discussion forum so that your questions and the instructor's answers benefit the entire class.** You should send emails directly to your instructor only when you need to discuss something of a personal or sensitive nature, and in those cases your instructor will provide a response within 48 hours.

Grading

| | |
|-------------------------|-----|
| Exam 1 | 15% |
| Exam 2 | 15% |
| Final Exam | 15% |
| Final Project | 10% |
| Class Participation | 15% |
| Module Assignments (13) | 30% |

Grades will be assigned using the following grading scheme (in accordance with UGA's new +/- grading policy):

| | | | |
|----------|-----------|----|-------|
| 100 - 93 | percent - | A | (4.0) |
| 93 - 90 | percent - | A- | (3.7) |
| 90 - 86 | percent - | B+ | (3.3) |
| 86 - 83 | percent - | B | (3.0) |
| 83 - 80 | percent - | B- | (2.7) |
| 80 - 76 | percent - | C+ | (2.3) |
| 76 - 73 | percent - | C | (2.0) |
| 73 - 70 | percent - | C- | (1.7) |
| 70 - 60 | percent - | D | (1.0) |
| < 60 | percent - | F | (0.0) |

For more on plus/minus grading see:

<http://www.bulletin.uga.edu/PlusMinusGradingFAQ.html>

Course Schedule

Jan 11-17: Module 1 – Introduction to Planet Earth (Intro. & Chap. 1)

- List the Seven Principles of Ocean Literacy
- Define the four main disciplines of oceanography
- Compare and contrast the characteristics of Earth's oceans
- Summarize early exploration of the oceans
- Define the scientific method
- Explain the formation of Earth and the solar system
- Explain the formation of the oceans and atmosphere
- Justify why life is thought to have originated in the oceans
- Describe how scientists date the age of the Earth

Jan 18-24: Module 2 – Plate Tectonics and the Ocean Floor (Chap. 2)

- Compare and contrast continental drift and plate tectonics
- Explain the evidence supporting plate tectonics
- Define plate boundaries and describe their respective features
- Explain the Wilson Cycle

Jan 25-31: Module 3 – Marine Provinces (Chap. 3)

- Describe methods used to determine ocean bathymetry
- Identify sea floor features
- Compare transform faults and fracture zones

Feb 1-7: Module 4 – Marine Sediments (Chap. 4)

- List and describe the four principle types of marine sediments
- Summarize marine sediment collection methods
- Describe how marine sediments record historical events
- Identify resources provided by marine sediments
- Explain the worldwide distribution of sediment deposits

Feb 8-14: Module 5 – The Coast (Chap. 10)

- Define coastal regions with appropriate terminology
- Demonstrate how sand moves on the beach
- Compare erosional and depositional shores
- Evaluate the impacts of sea level rise on shorelines

Feb 15-21: Module 6 – The Coastal Ocean (Chap. 11)

- Summarize the laws that govern ocean ownership
- Explain the characteristics of coastal waters
- Compare coastal water types
- Evaluate the environmental issues facing coastal wetlands
- Define pollution
- Describe the main types of marine pollution

Feb 22-28: Module 7 – Exam Week

Feb 29 – Mar 6: Module 8 – Water and Seawater (Chap. 5)

- Explain water's unique chemical properties
- Demonstrate an understanding of the salinity of seawater and how salinity is measured
- Explain why seawater salinity varies
- Identify the acid/base properties of seawater
- Interpret the variation of salinity at the surface and with increasing depth
- Describe density and explain why it varies with depth
- Judge desalination methods

Mar 14-20: Module 9 – Air-Sea Interaction (Chap. 6)

- Explain variations in solar radiation on Earth
- Identify and describe the physical characteristics of the atmosphere
- Explain the Coriolis effect
- Illustrate global atmospheric circulation patterns
- Describe oceanic weather and climate patterns
- Compare how sea ice and icebergs are formed
- Evaluate wind as a source of energy

Mar 21-27: Module 10 – The Oceans and Climate Change (Chap. 16)

- Describe the components of Earth's climate system
- Assess whether Earth's recent climate change is natural, anthropogenic or a combination
- Explain the atmosphere's greenhouse effect
- Describe climate change induced changes in the ocean
- Appraise the potential for greenhouse gas mitigation

Mar 28 – Apr 3: Module 11 – Exam Week

Apr 4-10: Module 12 – Ocean Circulation (Chap. 7)

- Describe how ocean currents are measured
- Explain how ocean surface currents are organized
- Illustrate the main surface circulation patterns in each ocean basin
- Discuss the origin and characteristics of deep-ocean currents
- Evaluate currents as a source of energy

Apr 11-17: Module 13 – Waves and Water Dynamics (Chap. 8)

- Describe how waves are generated and how they move
- Identify the characteristics of waves
- Show how wind-generated waves develop
- Explain how waves change in the surf zone
- Evaluate waves as a source of energy

Apr 18-24: Module 14 – Tides (Chap. 9)

- Describe the forces that cause ocean tides
- Demonstrate how tides vary during a monthly tidal cycle
- Characterize ocean tides
- Compare the characteristics and locations of the three types of tidal patterns
- Describe coastal tidal phenomena
- Evaluate tides as a source of energy

Apr 25 – May 1: Module 15 – Biological Productivity and Energy Transfer (Chap. 13)

- Demonstrate an understanding of primary productivity in the ocean
- Describe various kinds of photosynthetic marine organisms
- Explain variations in regional primary productivity
- Show how energy and nutrients are passed along in a marine ecosystem
- Describe issues affecting marine fisheries

May 2-8: Finals week

Attendance. N/A

The course has been divided into 16 modules which cover specific topics within the ocean sciences. Each module will include a pre-quiz, readings from the text, videos from the Internet, discussion board prompts and graded assignments. Each module may also include short video lectures. The assignments in each module will be open for **10 days** from Friday to the following Sunday. All assignments will be due by 11:59PM on that Sunday night. After that time you will not be able to submit additional work. **Because you have 10 days to complete your exam, it is *highly* unlikely that exceptions will be made.** Plan accordingly. The videos and peer discussion boards will remain available so that you are able to access them throughout the semester.

Module Assignments. You are responsible for completing the module assignments. These assignments will consist of questions based on the module's readings and video presentations. The readings and assignment closing dates are shown in the Course Schedule below. Module assignments will be timed and open book but must be completed independently.

Exams. Exams will be administered through the eLC. They will be timed and open book. You must work independently. There will be no reading or homework assignments during the week an exam is scheduled. This time is intended to allow you to study and prepare for the exam. Each exam can be taken only once. Students will abide by the University of Georgia Academic Honesty Policy.

Missed exams. Under extreme circumstances (an excused absence), a make-up exam will be given. You must make arrangements prior to the week of the exam to take a make-up exam. If you DO NOT complete an exam prior to the closing date, you will receive a zero. It is your responsibility to contact Dr. Buck by email or phone if you miss the exam due to unforeseen circumstances. **Because you have 10 days to complete your exam, it is *highly* unlikely that exceptions will be made.** Plan accordingly.

Final Project. You will find a more complete description of the final project assignment in the "Welcome to MARS 1011e" module. The project will entail either a 2 page essay or a 3 minute video on a topic of your choice. The project will be due during Module 15. Your topic is subject to instructor approval and is due to me during Module 7. See <hyperlink> for details.

Class Participation. As stated above, you have a responsibility to participate in this course. You will fulfill this obligation by interacting with your classmates in the peer discussion boards. You are also expected to complete each module's pre-quiz. The grade you earn on the pre-quiz will not count towards your grade but you will get credit for completing the assignment.

Academic Honesty Policy. Culture of Honesty – The University of Georgia seeks to promote and ensure academic honesty and personal integrity among students and other members of the university community. A *Culture of Honesty*, UGA’s academic honesty policy and procedures, was developed to serve these goals. All members of the academic community are responsible for knowing the policy and procedures on academic honesty.

Watch the presentation on [Academic Honesty at UGA](#)

Click here to read the Culture of Honesty policy: [The Culture of Honesty Policy](#)

Suspected Violations. When suspected violations of the academic honesty policy occur, appropriate procedures are in place to protect the integrity of the academic process while ensuring due process.

Netiquette Policy. The following guidelines should be followed each time you interact in the course to insure your interactions are respectful and professional:

- In all your interactions, remember that there is a person behind the written post, who has feelings and can be hurt by what and how you interact with them.
- Saying something online is easier than saying it while looking the other person in the eye; never post anything that you would not say face-to-face
- Adhere to the same standards of behavior online that you follow in real life, which includes acting ethically and following rules and regulations. If you would not steal in real life, then you should not steal online by taking other people’s ideas and using them as your own
- Respect other people’s time and bandwidth:
 - a) Take time to understand the requirements of the discussion
 - b) Do not waste people’s time by asking questions that are not relevant to the discussion or questions whose answers can be readily be found in the course with a little effort
 - c) Refrain from disagreements that lead to personal attacks
- Make yourself look good online:
 - a) Take time to check your spelling and grammar
 - b) Prepare for discussions prior to engaging in them.
 - c) Refrain from inappropriate language and remarks
- Share your knowledge by offering help to learners who have questions
- Help keep flame wars under control by not posting flames and not responding to flames – keep discussions professional
- Forgive other learners’ mistakes and be patient and compassionate of all learners in the course

Disability Statement. UGA is committed to the success of all learners, and we strive to create an inclusive and accessible online environment. In collaboration with the Disability Resource Center (<http://drc.uga.edu/>), we work with students who have documented disabilities to access reasonable accommodations and academic supports.

The University of Georgia follows the Section 508 Standards for web accessibility. Please contact your instructor with accessibility problems in this course.

If you have a disability and would like to request specific accommodations, please contact your instructor. If you plan to request accommodations for a disability, please register with the UGA Disability Resource Center, 114 Clark Howell Hall, Athens, GA 30602. Phone: 706.542.8719 Fax: 706.542.7719 Email: dsinfo@uga.edu

Below you will find links to accessibility information for specific tools:

eLCNew:

[Desire2Learn Resources for Individuals with Disabilities](#)

Synchronous & Archived Sessions:**[Blackboard Collaborate Assistive Technology](#)**

Learning/Study Aides: The instructor is available to assist you during office hours or by appointment. You can also find help by contacting the University of Georgia's Tutorial Service at 706-542-7575

(http://www.uga.edu/dae/services/tutoring/tutoring_index.html). The goal of this course is to help you learn about oceanography. If you are having trouble with the class, please do not wait until the end of the semester to ask for help.

Incompletes. The grade of Incomplete (I) is given to students who, for reason of accident or illness, were unable to complete a segment of the course. In no case will an Incomplete be given as a means of avoiding a failing grade.

Copyright. This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Third-Party Software and FERPA. During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these are required assignments, you need **not** make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identifiable/sensitive information. If you have any concerns about this, please contact your instructor.