

FNR 201 – MARINE BIOLOGY – FALL 2010

Instructor

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Office Hours

By appointment only

Class Meeting Times

MWF: 8:30 – 9:20 AM, 216 FORS

Course Description

FNR 201 (Marine Biology) seeks to provide students with an introduction to the form and function of biological organisms of marine ecosystems. Specifically, students will learn the fundamental biological components of oceans and seas. Concepts will be taught based on three lectures each week during the fall semester. The course is housed and instructed by faculty in the Department of Forestry and Natural Resources and is intended for undergraduate students from biology, ecology, fisheries, and aquatic sciences disciplines.

Course Objectives

By the end of the course, students should be able to:

- a. Recognize all major taxa of marine organisms and major marine ecosystems of the world
- b. Describe physical properties that form major marine habitats and explain how these physical properties influence species and communities of marine organisms
- c. Describe chemical properties of major marine habitats and explain how these chemical properties influence species and communities of marine organisms
- d. Demonstrate an understanding of the ecological roles and interactions of representative organisms that comprise marine communities
- e. Demonstrate critical thinking and writing skills relevant to concepts in marine biology

Special Needs

If you need course adaptations or accommodations because of a disability, please contact the instructors as soon as possible in order to make the necessary arrangements.

Course Text

The suggested text for this course is ***Introduction to Marine Biology* by Karleskint, Turner, and Small (ISBN-10: 0495561975)**. The text is *not* required, but it may be useful for review and preparing for lectures.

Scientific Writing Style

The written assignments of this course *must* follow the guidelines to be provided by the instructor. Information obtained from the Internet *may be* considered to be a valid source of scientific information for your project, but it must not constitute more than 10% of the citations used for the assignment (more details on the writing assignments to be provided in class).

Writing Assignments

Writing assignments will be based on literature review and identification of potential trajectories for future challenges in marine ecosystem management, conservation, and sustainability. This will be done in stages with the first being an annotated bibliography (100 points) followed by two peer-reviewed writing assignments (100 points each). Dr. Goforth will provide additional guidance for the development of the group projects by Sep 15.

Exams

Five exams will be given according to the course schedule below. The intent is to increase the frequency of exams to limit the amount of material covered on each exam (i.e., 6-8 lectures/exam). The final exam will be given during the designated time period to be assigned at a later date by the University. The final will not be cumulative, although cumulative questions will appear on the final for opportunities to earn extra credit points. All exams are required, although students with averages of **>92** at the time of the final exam may exempt the final.

Class Participation

Attendance will **not** be taken for this class, although all students are strongly encouraged to attend classes as performance (i.e., grades) are generally associated with attendance. Attendance is mandatory for exams unless circumstances arise that make it necessary to reschedule. Doing so will be at the discretion of the instructor and must be arranged **prior** to the exam unless emergency circumstances arise the day of an exam.

Grading

Late assignments will be docked 10% of the total point value for each day late and missed exams will be assigned a zero score. If you cannot take an exam or turn in an assignment on time, it is your responsibility to contact Dr. Goforth prior to the date in question. With the exception of emergencies, exam make-ups or late assignment requests will only be honored if a legitimate reason is provided in writing at least one week prior to that date.

| Component | Points Available | Percentage of Total |
|-------------------------|-------------------------|----------------------------|
| Writing Assignments (3) | 300 | 37.5% |
| Class Exams (5) | 500 | 62.5% |
| TOTAL | 800 | 100% |

Academic Dishonesty

Dr. Goforth will not tolerate academic dishonesty (e.g., cheating, plagiarism, etc.) by students enrolled in FNR201. This is in full compliance with the Purdue University Academic Dishonesty Statement (viewable at: <http://www.edst.purdue.edu/rud/edst%20200/Academic%20Dishonesty,%20Adaptive%20Programs,%20and%20Emergency%20Statements.pdf>). Students found to be guilty of academic dishonesty will receive a "0" score for the related assignment.

Class Schedule

| <u>Date</u> | <u>Lecture Topic/Exam/Assignment Due</u> |
|---------------|--|
| Aug 23 | Lecture 1: Course Overview, Pretest |
| Aug 25 | Lecture 2: Physico-chemical properties of water and why they are important |
| Aug 27 | Lecture 3: Fundamentals of Ecology I |
| Aug 30 | Lecture 4: Fundamentals of Ecology II |
| Sep 01 | Lecture 5: Ocean Geology |
| Sep 03 | Lecture 6: Waves, Currents, and Tides I |
| Sep 06 | LABOR DAY – NO CLASS |
| Sep 08 | Lecture 7: Waves, Currents, and Tides II; Biological Concepts I |
| Sep 10 | Lecture 8: Biological Concepts II |
| Sep 13 | Exam I – Lectures 2-8 |
| Sep 15 | Lecture 9: Marine Microbes I |
| Sep 17 | Lecture 10: Marine Microbes II; Multicellular Primary Producers I |
| Sep 20 | Lecture 11: Multicellular Primary Producers II; Last Day to Drop Class without a Grade Assignment |
| Sep 22 | Lecture 12: Lower Invertebrates I |
| Sep 24 | Lecture 13: Lower Invertebrates II |
| Sep 27 | Lecture 14: Lower Invertebrates III; Last Day to Drop Class with a Grade Assignment |
| Sep 29 | Lecture 15: Higher Invertebrates I |
| Oct 01 | Exam II – Lectures 9-14 |
| Oct 04 | Lecture 16: Higher Invertebrates II |
| Oct 06 | Lecture 17: Higher Invertebrates III |
| Oct 08 | No Class – Annotated Bibliography Assignment Due Via E-mail to Dr. Goforth (rgoforth@purdue.edu) with a Time Stamp No Later Than 5:00 PM |
| Oct 11 | No Class – Fall Break |
| Oct 13 | Lecture 18: Higher Invertebrates IV |
| Oct 15 | Lecture 19: Marine Fish I – Basic Fish Biology |
| Oct 18 | Lecture 20: Marine Fish II – Fish Diversity I |
| Oct 20 | Lecture 21: Marine Fish III – Fish Diversity II |
| Oct 22 | Lecture 22: Marine Fish IV – Fish Ecology |
| Oct 25 | Exam III – Lectures 15 – 22 |
| Oct 27 | Lecture 23: Marine Reptiles |
| Oct 29 | Lecture 24: Seabirds |
| Nov 01 | Lecture 25: Marine Mammals I |
| Nov 03 | Lecture 26: Marine Mammals II |
| Nov 05 | Draft of Writing Assignment I Due; Peer Review in Class |
| Nov 08 | Lecture 27: Intertidal Zone I; Writing Assignment I Due Via E-mail to Dr. Goforth by 5:00 PM |
| Nov 10 | Lecture 28 Intertidal Zone II |
| Nov 12 | Lecture 29: Estuaries |
| Nov 15 | Exam IV – Lectures 23 – 29 |
| Nov 17 | Lecture 30: Coral Reefs I |
| Nov 19 | Lecture 31: Coral Reefs II |
| Nov 22 | Blue Planet DVD |
| Nov 24 | No Class - Thanksgiving |
| Nov 26 | No Class - Thanksgiving |

Nov 29 Draft of Writing Assignment II Due; Peer Review in Class

Dec 01 Lecture 32: Continental Shelves & Neritic Zone I

Dec 03 Lecture 33: Continental Shelves & Neritic Zone II; Writing Assignment II Due Via E-mail to Dr. Goforth by 5:00 PM

Dec 06 Lecture 34: Open Sea I

Dec 08 Lecture 35: Open Sea II

Dec 10 Lecture 36: Deep Sea

EXAM V – Lectures 30 – 37 with some comprehensive questions from Exams I – IV (TBD)