Syllabus for
BIO 458–Marine Ecology Lecture
3.0 Credit Hours
Spring 2011

I. COURSE DESCRIPTION

A course designed to familiarize the student with the physical, chemical, and biological factors of marine environments. Emphasis is placed on ecology. (Open to both science and non-science majors meeting the prerequisites.)
Prerequisites: BIO 101 lecture and lab, BIO 111 lecture and lab.
Corequisite: BIO 458 lab is strongly recommended.

II. COURSE GOALS

The course is designed to provide an overview of the marine environment. Students will gain an appreciation for the unique aspects of different marine ecosystems, including open ocean, intertidal, estuarine, coral reef, and deep sea habitats. The responsibility of Christians in helping protect this beautiful part of Creation is the ultimate goal.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

Terminal Objectives
As a result of successfully completing this course, the student will be able to do the following:

A. Demonstrate an understanding of the physical, chemical, and biological properties of marine ecosystems through oral and written exams and classroom discussions.

B. Discuss the role of abiotic factors, competition, and predation in influencing the distribution of marine organisms.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

A. Required Textbook
Castro, P. and M.E. Huber. Marine Biology, 8th ed., McGraw Hill Publ.
ISBN: 007893673X.

B. Other Materials
Various journal, newspaper, and magazine articles will also be made available for students to read.

V. POLICIES AND PROCEDURES

A. University Policies and Procedures
1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print,

electronic, video, multimedia, or computer software. Plagiarism and other forms of cheating involve both lying and stealing and are violations of ORU's Honor Code: "I will not cheat or plagiarize; I will do my own academic work and will not inappropriately collaborate with other students on assignments." Plagiarism is usually defined as copying someone else's ideas, words, or sentence structure and submitting them as one's own. Other forms of academic dishonesty include (but are not limited to) the following:

a. Submitting another's work as one's own or colluding with someone else and submitting that work as though it were his or hers;
b. Failing to meet group assignment or project requirements while claiming to have done so;
c. Failing to cite sources used in a paper;
d. Creating results for experiments, observations, interviews, or projects that were not done;
e. Receiving or giving unauthorized help on assignments.

By submitting an assignment in any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means. Penalties for any of the above infractions may result in disciplinary action including failing the assignment or failing the course or expulsion from the University, as determined by department and University guidelines.

4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
5. Students are to be in compliance with University, school, and departmental policies regarding the Whole Person Assessment requirements. Students should consult the Whole Person Assessment handbooks for requirements regarding general education and the students' majors.
   a. The penalty for not submitting electronically or for incorrectly submitting an artifact is a zero for that assignment.
   b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.

B. Course Policies and Procedures

1. Evaluation Procedures

a. Point Distribution

	POINTS
Quizzes (3 @ 10 points each)	30
Exams (4 @ 100 points each)*	400
Final Exam (comprehensive)	150
Reading Assignments (see below)	100
TOTAL	680 (700 max. with extra credit)

* An optional term paper can be substituted for one exam

b. Grading Scale

Final Grade	Evaluation
Grade	Percent
A	>90.0
B	80-89.9
C	70-79.9
D	60-69.9
F	Below 60

2. Whole Person Assessment Requirements
None

3. Other Information

a. NOTE: Late exams are penalized 10% per day.

b. Many articles are available for students to read during the semester. All are available in the filing cabinets in GC1B11 (door always unlocked). Some of these articles are short, while others are longer; and some of these are fairly easy to read, while others are of greater complexity. Because of this variability, different points are assigned to each article. In order to earn an "A" grade, students are required to read the number of articles that gives them a total of 100 points. Students should read various types of articles so that they do not only read a few long articles worth more points. Thus, they should try to read at least 20 articles during the semester. For each article read, students are to turn in a one fourth-page (short article) or longer (long article) summary of **what they learned** and their **overall impressions** after reading this paper, with the student's name, date, points, author, and title of the article at the top of the page. A maximum of 20 points of synthesis can be turned in within a week. Students should not try to turn in extra readings at the end of the semester. No articles are accepted after the last regular day of class (before finals week).

The purpose in assigning these articles is to encourage students to learn a little more about whatever subjects in marine ecology are of interest. If any student comes across other articles of interest that are not on reserve, he or she should consult the instructor to gain permission before turning in a report.

VI. COURSE CALENDAR

Week	Topic	Chapter in Text
1	Intro. to course; The Science of Marine Biology	 1
2	The Sea Floor Chemical and Physical Features of Seawater…	2 3
3	Fundamentals of Biology	4
4	The Microbial World Multicellular Primary Producers: Seaweed and Plants	5 6
	EXAM 1 (Chapters 1-6)	
5	Life Near the Surface An Intro. to Marine Ecology	15 10

Week	Topic	Chapter in Text
6	Marine Animals without a Backbone **EXAM 2** (Chapters 15, 10, 7)	7
7	Coral Reefs	14
8	Life Near the Surface	15
	SPRING BREAK (Trip)	
9	Estuaries: Where Rivers Meet the Sea Life on the continental Shelf	12 13
10	Between the Tides	11
	EXAM 3 (Chapters 14, 15, 12, 11)	
11	Marine Fishes	8
12	Marine Reptiles, Birds and Mammals	9
13	The Ocean Depths	16
	EXAM 4 (Chapters 8, 9, 16)	
14	Resources from the Sea The Impact of Humans on the Marine Environment The Oceans and Human Affairs	17 18 19
15	**FINAL** (over Chapters 16, 17, 18, 19 and cumulative)	

Course Inventory for ORU's Student Learning Outcomes

Marine Ecology Lecture – BIO 458
Spring 2011

This course contributes to the ORU student learning outcomes as indicated below:
Significant Contribution – Addresses the outcome directly and includes targeted assessment.
Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.
Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.
No Contribution – Does not address the outcome.

The Student Learning Glossary at http://ir.oru.edu/doc/glossary.pdf defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities	Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1	**Outcome #1 – Spiritually Alive** Proficiencies/Capacities				
1A	Biblical knowledge				X
1B	Sensitivity to the Holy Spirit			X	
1C	Evangelistic capability			X	
1D	Ethical behavior			X	
2	**Outcome #2 – Intellectually Alert** Proficiencies/Capacities				
2A	Critical thinking		X		
2B	Information literacy		X		
2C	Global & historical perspectives		X		
2D	Aesthetic appreciation		X		
2E	Intellectual creativity		X		
3	**Outcome #3 – Physically Disciplined** Proficiencies/Capacities				
3A	Healthy lifestyle				X
3B	Physically disciplined lifestyle				X
4	**Outcome #4 – Socially Adept** Proficiencies/Capacities				
4A	Communication skills			X	
4B	Interpersonal skills			X	
4C	Appreciation of cultural & linguistic differences			X	
4D	Responsible citizenship		X		
4E	Leadership capacity				X