

# MARINE BIOLOGY

**BIO 412- Spring 2012 (4 credit hours)**

**Location: Kettering 131 (lect) and Kettering 327 (lab)**

**Time: 10:50-12:05 TTh (Lect), 3-4:50 T (Lab)**

**Instructor:** Dr. Mason Posner E-mail: [mposner@ashland.edu](mailto:mposner@ashland.edu)

Kettering 320 Text: (330) 421-9552

**Office Hours:** By appointment – can be set in class or at <http://tungle.me/masonposner>

**Prerequisites:** Bio 201/202

**Statement of Purpose:** This course will give a broad understanding of the many subjects studied by marine biologists with a focus on marine ecology of the Atlantic Coast of North America.

**Course Objectives:** The goals of this course are for you to:

- Understand how physical and chemical processes affect life in the ocean
- Be able to recognize the diversity of marine organisms
- Develop a general understanding of marine ecology
- Know the physical and biological features of specific marine ecosystems
- Analyze published studies in marine science
- Further develop your ability to read and understand the primary literature
- Further develop your written and oral communication skills

**Approach:** Two 75-minute lectures and one two-hour lab per week.

**Grading:** Your grade will depend on the following work:

**Two 1-hour exams.** These exams will cover lecture material and any relevant material covered in lab.

**Final exam.** This exam will cover primarily the last portion of the course, including questions on the presentations and information from the field trip. There will also be some cumulative questions covering the major themes of the course.

**Quizzes:** Quizzes will cover lecture and lab material. They will generally be announced, but they can be given as a surprise as well.

**Two lab practicals.** You will need to identify organisms seen in lab or on the field trip, and demonstrate an understanding of any techniques learned in lab.

**Journal article discussion:** During the semester we will read a number of reviews and primary literature from scientific journals. You will be writing answers to questions about these articles, and we will be discussing the articles in lab. Your written answers and discussion will contribute 50 points to your grade.

**Blog contributions:** You will be posting content to [a course blog](#) about current research and marine-related news. Expectations about how much you should contribute will be presented in class.

**Presentation:** At the end of the semester each of you will present a 15-minute talk on a subject that interests you in marine biology. You will get more details on this talk during the first two weeks of class.

**Lab/Field notebook/Wiki:** You will use a Field Notebook for sketches, observations and data collected in lab and in the field. This notebook will be collected periodically. You will also use information collected during our trip to North Carolina to contribute to a [Wiki-based course field guide to Atlantic Coast marine species](#).

**Point summary:**

Lecture Exams	(2 @ 100 points/each)	200
Lab Practicals	(2 @ 30 pts/each)	60
Final exam		100
Discussion of journal articles		50
Blogging		50
Presentation		75
Lab/Field Notebook/Wiki		75
Quizzes (5 @ 20 points each)		100
Total		710

Your final grade will be based on the percentage of the total possible points you obtain in class as follows:

90% - 100%	=	A- or better
80% - 89%	=	B- or better
70% - 79%	=	C- or better
60% - 69%	=	D- or better
0% - 59%	=	F or better

**Resources and what to do with them:**

**Course web page:** [www.masonposner.com](http://www.masonposner.com). Contains links to assignments, lecture notes, and web resources. Get in the habit of checking it often.

**Course blog:** <http://ashlandmarinebio.blogspot.com/>. I will post follow-up information to lectures and student questions on the course blog, and you will be contributing your own posts and comments.

**Angel course page:** You will submit written assignments through this page and take some online quizzes.

**Bertness, MD (2006). Atlantic Shorelines.** Princeton University Press, Princeton. Our textbook for the course. We will be discussing readings from this book throughout the semester.

**Deblieu, J (1998). Hatteras Journal.** John F. Blair, Winston-Salem. A book about life and nature on the Outer Banks of North Carolina, where we will be going for our field trip in April. We will read and discuss several chapters during the semester.

**Course YouTube Channel:** You can find a link to this page of course related videos on the course web page.

## Course Policies

**Reading.** You will be given reading assignments in the textbook and from the scientific literature ahead of most lectures and/or labs. You will also be given thought questions for most readings. Do the readings and think about the questions **BEFORE** coming to lecture. Much of our time in class will be discussion driven, and you need to have done the reading ahead of time to participate.

**Excused Absences:** An absence will only be excused if: 1. You have a letter from university health services or a private physician stating that you were unable to attend class for health reasons. 2. You will be travelling for a university sponsored event. This must be brought to my attention before the absence so that alternate arrangements can be made. Only with an excused absence will you be able to make-up a missed exam. Make-up exams may be given as oral exams at my discretion.

**Late Work:** Assignments submitted late due to an excused absence (see above) will be accepted on a case-by-case basis. Generally, written assignments will be docked 10% of the awarded points for each day they are late. Answers to thought questions submitted after class discussions will be docked 50% of the awarded points.

**Disability Services:** Students with documented disabilities who require academic adjustments for this class are requested to contact me to discuss reasonable accommodations. While not required, it is in the best interest of the student to have this conversation early in the semester. In order to receive academic adjustments paperwork from Disability Services must be provided to document this need. Disability Services is located in 105 Amstutz, extension 5953.

**Academic Integrity Policy:** Any student cheating on or plagiarizing an assignment will receive an "F" on that assignment, will be reported to the registrars office, and may be expelled from the University. Your student handbook defines plagiarism as follows:

"Plagiarism is the intentional or unintentional presentation of someone else's words, ideas or data as one's own work. In the event the faculty member deems the plagiarism is unintentional he/she shall typically require the student to rewrite the assignment. In the event the faculty member believes the plagiarism is willful, the sanctions in this document will apply. If the work of another is used, acknowledgment of the original source must be made through a recognized reference practice, and, if verbatim statements are included, through quotation marks as well. To assure proper crediting, a student will acknowledge the work of others:

1. Whenever one quotes another person's actual words.
2. Whenever one uses another person's idea, opinion or theory, even if it is completely paraphrased in one's own words.
3. Whenever one borrows facts, statistics, or other illustrative materials-unless the information is of such common knowledge so as not to be questioned."

**I will assume that you are knowledgeable of the definitions of plagiarism!**

**Note:** Although it is not technically plagiarism, do not extensively quote material from primary sources in your assignments. Use your own words unless there is absolutely no other way to avoid the original words of the author.

**NO DOUBLE DIPPING: Assignments done for this course cannot be used in other courses. Likewise, you cannot use assignments from other courses to fulfill requirements of this course.**

**Technology Policy:** We will be using several online technologies this semester, including online submission of papers. Technology mishaps are not an emergency, but a regular part of using online systems and computers. You are responsible for submitting your work in sufficient time to accommodate potential network outages or computer mishaps. Crashed computers, downed networks and virus attacks are not a valid excuse for late assignments. Save often, back up your work and be prepared (I recommend the free online web service called Dropbox – [www.dropbox.com](http://www.dropbox.com)). Papers should not be submitted by email.

## TENTATIVE LECTURE SCHEDULE

	<b>Topic</b>	<b>Lab</b>
<b>Week 1</b> 1/10-1/12	The Marine Environment Oceanography	Oceanography
<b>Week 2</b> 1/17-1/19	Water Motion Economy of the Ocean	Analysis of seawater
<b>Week 3</b> 1/24-1/26	Primary Production	Plankton
<b>Week 4</b> 1/31-2/2	Reproduction and Development/Larvae <b>**EXAM 1**</b>	Algae/Larvae
<b>Week 5</b> 2/7-2/9	Reproduction and Development/Larvae	Invertebrates part 1
<b>Week 6</b> 2/14-2/16	Intertidal Ecology	Invertebrates part 2
<b>Week 7</b> 2/21-2/23	Rocky Shores Soft Sediment Habitats	<b>**Practical 1**</b>
<b>Week 8</b> 2/28-3/1	Soft Sediment Habitats <b>**EXAM 2**</b>	Invertebrates part 3
<b>3/5-3/9</b>	<b>**Spring Break**</b>	
<b>Week 9</b> 3/13-3/15	Deep Sea Estuaries	Vertebrates part 1
<b>Week 10</b> 3/20-3/22	Estuaries Salt Marshes	Vertebrates part 2
<b>Week 11</b> 3/27-3/29	<b>**No Class on 2/27 – URCA symposium**</b> Salt Marshes	<b>**No Lab**</b>
<b>Week 12</b> 4/3-4/5	Nekton Tropical Communities	Presentations
<b>Week 13</b> 4/10-4/12	Tropical Communities <b>**Practical 2**</b>	Presentations
<b>Week 14</b> 4/17-4/19	Barrier Islands – trip prep <b>**Field Trip to Outer Banks**</b>	<b>**No Lab – Field Trip**</b>
<b>Week 15</b> 4/24-4/26	Trip recap <b>**No Class on 4/26 – Reading Day**</b> <b>FINAL EXAM: Wednesday, May 2<sup>nd</sup> from 10:30 am -12:30 pm</b>	