OCB 1010 – Introduction to Marine Biology (3 credits)
Fall 2014-1 Term (August-November 2014)
Reference #826902

Day/Time: Tuesdays and Thursdays, 9:50-11:30 AM
Classroom: Room G-215, Building G, MDC-Homestead Campus
Instructor: Mark Chiappone
Building B, Room B-119, Homestead Campus
On Campus: 305.237.5073
E-mail: mchiappo@mdc.edu
Web page URL: http://faculty.mdc.edu/mchiappo

Office and Campus Hours: Mondays and Wednesdays, 5-9 PM
Tuesdays and Thursdays: 7-8 AM, 11:30 AM-2:00 PM, 7:20-9:00 PM

Course Description: An introduction to the biology of the seas. Emphasis is placed on the
variety of marine organisms and their structural, physiological, and
behavioral adaptations within specific marine environments. Special
attention is directed to marine communities, e.g., coral reefs and shallow
grass flats, and the factors limiting the distribution of organisms within
those communities. Discussions will also be directed towards geological,
chemical, and physical characteristics of the world's oceans (3 contact
hr. lecture). Pre-requisites and co-requisites: none.

General Education Outcomes: (1) Communicate effectively using listening, speaking, reading, and
writing skills.
(2) Use quantitative analytical skills to evaluate and process numerical
data.
(3) Solve problems using critical and creative thinking and scientific
reasoning.
(4) Formulate strategies to locate, evaluate, and apply information.
(8) Use computer and emerging technologies effectively.
(10) Describe how natural systems function and recognize the impact of
humans on the environment.

Service Learning: Field trip opportunities may periodically be offered to provide service-
learning hours with several environmental organizations. The Institute for
Civic Engagement and Democracy (ICED) web site (www.mdc.edu/iced)
provides further details.
Resources


Course Web Site: Your professor’s web site is available at http://faculty.mdc.edu/mchiappo and provides links to the course syllabus, chapter outlines, vocabulary terms for the in-class vocabulary quizzes, and sample questions for all 12 chapters to be covered during the course.

Learning Support: Computer support and tutoring is available in the Learning Support Lab and Computer Courtyard located in the Information Technology Center (2nd floor above library).

Online Course ID Required online quizzes are located at http://highered.mcgraw-hill.com/sites/0073524166/student_view0/index.html. You do not need to purchase an access code to use this web site. The web site provides access to supplementary course materials, as well as required online quizzes.

Class Procedures

Attendance: There will be a sign-in sheet for every class to verify attendance. If you cannot attend class, please notify the instructor via email or telephone. Poor attendance will be reflected in the final grade. Missing three classes may result in a student being dropped from the course.

PERSONAL COMMUNICATION DEVICES: Pagers and cellular phones are NOT conducive to the educational process in this class. I will assume that any interruption due to a personal communication device will be justifiable based on a real emergency and that the student being summoned will need to leave immediately to deliver a baby, attend to the dying, retrieve an injured child from daycare, or otherwise take immediate action which necessitates leaving. Such devices used during any quiz or exam will result in an automatic zero.

Supplementary Materials: The supplemental web site for Introduction to Marine Biology, 9th edition, provides chapter summaries, key terms, and further readings on course topics. An access code is not needed to access http://highered.mcgraw-hill.com/sites/0073524166/student_view0/index.html.

Review Sessions: The chapter outlines, key vocabulary terms, and chapter sample questions are available online on your professor’s faculty web page at http://faculty.mdc.edu/mchiappo. Exam questions will be drawn from the material in the course textbook.

Learning Support Lab: You are encouraged to visit the Learning Support Lab (D-203) or Computer Courtyard (D-205) if you do not have access to a computer with internet connection off campus. You will need a computer with internet connection to access the online quizzes.
Grading Procedure

Components:

**60% Exams:** There are four exams covering three chapters each. Exams will consist of questions based upon the textbook material. Exams will usually be returned the following class and will not be graded on a curve. Except for unusual circumstances, no make-up exams will be provided. Therefore, if you miss an exam, a zero will be recorded. If you anticipate missing an exam, you must arrange with your professor to take an alternate exam before the regularly scheduled exam.

**20% Online Quizzes:** There are online quizzes for each chapter available at [http://highered.mcgraw-hill.com/sites/0073524166/student_view0/index.html](http://highered.mcgraw-hill.com/sites/0073524166/student_view0/index.html) that must be taken AND emailed to your instructor (mchiappo@mdc.edu) by the due dates specified on the course schedule. The online quizzes consist of multiple-choice and true-false questions for each chapter and are good review tools for the in-class exams.

**20% In-class Vocabulary Quizzes:** There are 24 in-class quizzes that will be given that will test your knowledge of key vocabulary terms for each chapter. The list of vocabulary terms is available on your instructor’s web site ([http://faculty.mdc.edu/mchiappo](http://faculty.mdc.edu/mchiappo)). Quizzes will consist of 10-15 vocabulary term and definition matching questions that will be taken during class. The best 21 out of 24 scores will count towards your grade. There are no make-ups for any missed quizzes.

**Participation:** a sign-in sheet will be available to verify attendance. You are expected to have read the material that will be covered before class and to participate in class discussions. Arriving late or leaving class early will result in a 10% deduction on the next exam.

**Weighted grade formula:** Overall average = 0.20 * (online quiz average) + 0.20 * (in-class vocabulary quiz average) + 0.60 * (exam average).

**Grading Scale:**

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

No pluses or minuses will be given. It is the responsibility of the student to withdraw from the course by the appropriate deadline if the student wishes to receive a grade of W.

**Important Dates for the Fall 2014-1 Term**

- **Friday, August 29:** Last Day to Change Courses without Penalty; Withdraw from classes with 100% refund; Register, add, drop, or change sections of credit courses with instructor or department approval

- **Tuesday, November 4:** Last Day to Withdraw with a Grade of W

- **Friday, December 12:** Last Day of Classes for the Fall 2014-1 Term

- **Sunday, December 21:** Final course grades available on MyMDC
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Chapter Reading Assignments
OCB 1010 – Introduction to Marine Biology
Castro and Huber (2013)
Marine Biology, 9th edition

Exam #1 Material

Chapter 2: The Sea Floor
Chapter 3: Chemical and Physical Features of Seawater and the World Ocean
Chapter 4: Fundamentals of Biology

Exam #2 Material

Chapter 5: The Microbial World
Chapter 6: Multicellular Primary Producers: Seaweeds and Plants
Chapter 7: Marine Animals Without a Backbone

Exam #3 Material

Chapter 8: Marine Fishes
Chapter 9: Marine Reptiles, Birds, and Mammals
Chapter 10: An Introduction to Marine Ecology

Exam #4 Material

Chapter 11: Between the Tides
Chapter 12: Estuaries: Where Rivers Meet the Sea
Chapter 14: Coral Reefs
Course Competencies
OCB 1010 – Introduction to Marine Biology (3 credits)

Competency 1: The student will demonstrate knowledge of the nature of science and its application within the field of marine biology. Upon completion of this course, the student will be able to:
- Describe a brief history of the development of marine biology as a science, including, but not limited to, important contributions of individuals, events, and data gathering techniques.
- Apply the scientific method to past and present marine biological hypotheses, theories, and facts.
- Discuss selected examples of past and present marine biological research.
- Explain that scientific investigations are conducted to explore new phenomena, check on previous results, and test how well new theories predict known results.

Competency 2: The student will demonstrate an understanding of the basic geological and physical processes of the oceanic environment, and chemical nature of seawater. The student will be able to:
- Identify the names of the world’s oceans and seas and describe the geological provinces of the ocean bottom.
- Describe the chemical and physical properties of pure water and seawater.
- Explain factors affecting wind patterns, surface currents, waves, and tides.
- Explain basic geological processes like plate tectonics and continental drift in relation to land mass formation.
- Explain how Earth’s climate patterns are influenced by the interplay of land, sea, and astronomical events.

Competency 3: The student will demonstrate knowledge and comprehension of groups of living organisms found within the marine environment. Upon completion of this course, the student will be able to:
- Identify and describe taxonomic classification, characteristics, and examples of the vast array of marine organisms, including microbes, plants, invertebrates, and vertebrates.
- Explain the basic anatomy, physiology, and behavior of the above groups of marine organisms.
- Explain the relationships and adaptations of marine organisms to the ever-challenging marine environment.

Competency 4: The student will demonstrate knowledge and comprehension of basic marine ecological communities, ecosystems, and principles. Upon completion of this course, the student will be able to:
- Identify and describe characteristics of marine communities and ecosystems, including shorelines, estuaries, continental shelf habitats, coral reefs, the pelagic zone, and the deep-ocean environment.
- Explain and discuss ecological principles that characterize and govern the stability and distribution of the above communities and ecosystems.
- Explain and discuss factors that affect organism distribution within the above communities and ecosystems.
- Explain the interconnectedness/interlinking of the various organisms in the marine environment.
- Relate that the flow of energy within the marine ecosystem, through the various niches, i.e. producers, consumers, and decomposers, is intertwined and in a delicate balance.

Competency 5: The student will demonstrate an understanding of the human influences on the marine environment with an emphasis on local and regional issues. The student will be able to:
- Describe the past, present, and future potential resources available from the marine environment.
- Demonstrate that small changes in a component part of the ecosystem will have unpredictable effects on the entire marine environment and the global biosphere.
- Identify and describe the numerous impacts humans impose on the marine environment, including, but not limited to: pollution, coastal development, over-fishing, ethical considerations of marine animals in captivity, and recreation.
- Discuss various potential or active solutions to alleviate or eliminate negative human impacts on coastal and marine environments.
- Relate personal choices and actions to large-scale human impacts on marine environments.
- Discuss the value of and increasing importance of science and technology in helping resolve practical problems, while taking into account both human needs and environmental concerns.