

SCIN206

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Description

Course Description: This course covers key principles and topics in oceanography and marine biology. It is focused on applied problems; it will use problems involving the basic biology of organisms, taxonomy, marine ecosystems, pollution, fisheries, aquaculture and sustainable marine resources to investigate topics in marine biology. Prerequisite: SCIN130 or BIOL134.

Course Scope:

As a general survey course, "Introduction to Marine Biology," SCIN206, introduces the student to the major disciplines within marine biology, its links to other sciences, and the major conceptual principles applied in marine research, resource exploitation, and conservation. Examples from marine species, life cycles and reproduction, ecosystems, and marine pollution will serve as a means of integrating the material. A background in basic oceanography is required for students to have an understanding of the various marine environments, thus SCIN136 Oceanography is a prerequisite. The goal of SCIN206 is to provide you with a basic knowledge of marine biology and some fundamental skills in applying this knowledge to practical problems in your career or areas of special interest. It should also prepare you for advanced courses in biology, oceanography and environmental science. The research portion runs roughly but not exactly in parallel; this is because the amounts of theory and data differ from topic to topic. This evens out by the end of the eight weeks.

Objectives

The successful student will fulfill the following course objectives:

CO-1 Apply key terms, theories, models, and concepts of marine biology to current environmental parameters.

CO-2 Analyze interconnections among organisms of the oceans with each other and with the marine environment.

CO-3 Explain appropriate principles, theories, and models to solve specific practical problems in marine biology.

CO-4 Evaluate published information on various marine species and ecosystems.

CO-5 Interpret population and species data for specific marine organisms.

CO-6 Apply the current standard taxonomic system of classification to marine species.

CO-7 Evaluate how human activities impact the interactions of environmental factors in marine ecosystems.

CO-8 Assess potential for the future of sustainable fisheries and mariculture.

Outline

Week 1: Science of Marine Biology, The Sea Floor, Chemical and Physical Properties of Seawater

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber from Marine Biology Chaps 1, 2, and 3

Assignment(s)

Make your first contact to the professor.

Introduce yourself in the Week 1-A Forum. This is a mandatory, graded assignment. The 1-B Forum on Marine Technology is extra-credit and thus is optional.

Do and submit WORKSHEET 1.

In Forum 1 Part B , answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Week 2: Biochemistry, Cell Structure, Subcellular Organelles, Sexual Reproduction and populations

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chap 4

Google search Laws of Thermodynamics.

Google search Cambrian Period.

Google search the Burgess Shale.

Assignment(s)

Do and submit Worksheet 2.

Write and submit essay to answer question in Assignment 2.

In Forum2, answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Week 3: Marine Microbiology, Phycology and Marine plants

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chaps 5 and 6

Assignment(s)

Do and submit Worksheet 3.

Write and submit essay to answer question in Assignment 3.

In Forum 3, answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Week 4: Marine Invertebrates

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chap7.

Refer to the Organization of Biological Organisms in the Course Materials Folder

Assignment(s)

Do and submit Worksheet 4.

Write and submit essay to answer question in Assignment 4.

In Forum 4, answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Mid-term Exam (covers Weeks 1-4).

Week 5: Fishes/Ichthyology, Marine Birds, Reptiles and Mammals

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chaps 8 and 9.

Google: coelacanth

Google: Sea snakes

Assignment(s)

Do and submit Worksheet 5.

Write and submit essay to answer question in Assignment 5.

In Forum 5, answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Week 6: Life cycles and trophic levels, Food chains and food webs, Coasts, Beaches, The intertidal and rocky coastlines, Environmental issues

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chaps 10 and 11

Assignment(s)

Do and submit Worksheet 6.

Write and submit essay to answer question in Assignment 6.

In Forum 6, answer instructor's question (mandatory) and make at least one reply (mandatory) to other students' posts. These responses are graded. You are welcome to make more posts if you wish.

Week 7: Oceanic ecology: Life in the water column, Estuaries and estuary ecology, The Continental Shelf, Coral Reefs and reef ecology, Classifying organisms by functional relationships and lifestyles: plankton, nekton, benthos, Commercial fisheries

Learning Objectives(s)

CO-1
CO-2

CO-3
CO-4
CO-5

Reading(s)

Castro 7 Huber Marine Biology Chaps 12, 13 and 14.

Google search: Chesapeake Bay Foundation

Google: “coral bleaching”

Assignment(s)

Do and submit Worksheet 7.

Write and submit essay to answer question in Assignment 7.

In Forum 7, answer instructor’s question (mandatory) and make at least one reply (mandatory) to other students’ posts. These responses are graded. You are welcome to make more posts if you wish.

Week 8: Pelagic communities, Deep-sea (= abyssal) communities, Hydrothermal Vents, Ocean resources, Fisheries and commercial extinction, Aquaculture, Biodiversity, Human cultures and human impacts

Learning Objectives(s)

CO-1
CO-2
CO-3
CO-4
CO-5

Reading(s)

Castro & Huber Marine Biology Chaps 15, 16, 17, 18 and 19.

Google search: “Chilean Sea Bass/Orange roughy”

Assignment(s)

Do and submit Worksheet 8.

Write and submit essay to answer question in Assignment 8.

In Forum 8, answer instructor’s question (mandatory) and make at least one reply (mandatory) to other students’ posts. These responses are graded. You are welcome to make more posts if you wish.

Research Project is DUE.

Take and submit Final Exam (covers weeks 5 - 8).

Evaluation

Forums

Forums are the heart of this course’s learning experience. Each week the student has to answer a question

posed by the instructor in a well-research, well-thought-out, and well-written response AND respond to two classmate's and/or your Instructor's post. The weekly forums are graded for content and for grammar and spelling.

Worksheets

The eight worksheets in SCIN206 use a combination of multiple-choice and essay questions to allow the student to demonstrate knowledge gained from reading and research activities in SCIN206. Course resources, independent internet searches, imagination, and common sense will be required for students to interpret what they have learned from the activities. To find the worksheets in the electronic classroom, click on ASSIGNMENTS, then click on WORKSHEETS. A list of the eight worksheets will appear.

Assignments

The eight assignments are short essays dealing with the major themes of the week. They require the student to synthesize information from the textbook, independent internet sources, imagination, and common sense. Most weeks offer the student a choice between two questions.

Exams

SCIN206 has a midterm exam which covers the material in weeks and labs 1 through 4, at the end of week 4 and a final exam, which covers the materials in weeks 5 through 8, at the end of week 8. Exams will be activated at the start of weeks 4 and 8, respectively, and will be due by 11:55 PM Eastern Time on the Sunday that ends weeks 4 and 8, respectively.

Research Project

Once students have begun their study of topics in marine biology they are to formulate a research project around a specific marine species that is currently harvested/utilized by humans. They are to research this species and write a research report that details and includes the following aspects of their chosen species: **name of the species** (*both common and scientific name*), **specific biology of the species** (*its taxonomic classification, its life cycle, its specific niche in the marine ecosystem, area of the world/oceanic conditions that it requires, predators, prey, populations, and all relevant biological characteristics*), **it's current use as a resource** (*harvesting/fishing methods, the main areas of the world where it is caught and utilized, all harvesting/fishing regulations (including catch seasons) that apply to this species in a given area, minimum and possible maximum catch sizes, catch limits, harvesting method limits, etc*), **any issues surrounding it's continued use as a resource** (*the history of this particular species use, it's projected outlook/sustainability, population stabilities, etc*), **the species suitability for aquaculture** (*is it currently being farmed?, can this species be farmed successfully?, if not, why not?, specific factors that would encourage or inhibit its use as a renewable resource*), **the future outlook for this species** (*how much longer will the species last?, is it endangered?, commercially extinct?, it's prognosis*). All of the above-mentioned factors must be addressed in the research paper of minimum of 6 pages in length, plus bibliography (but more importantly addressing ALL of the required information) or a Power Point presentation with tables, graphs, or other graphics and a bibliography, which is to be submitted as a Word Document or Power Point in the Research Project Assignment category **by the last week of the course (Week 8)**. The main grading criteria are: Quality of Research, Use of Technology (Power Point is not required), Suitability for Aquaculture (here you discuss the pros and cons of whether it can be farmed) and Laws and Regulations concerning the species. **Students are required to select and submit a 1-paragraph proposal via email to the Instructor by the third week of the course.**

Please see the [Student Handbook](#) to reference the University's [grading scale](#).

Grading:

Name	Grade %
Forums	20.00 %
Week 1 Personal Introduction Forum	2.22 %

Week 1-A Forum Exploration and Marine Technologies	2.22 %
Week 2 Forum Major Scientific Theories - Plate tectonics and evolution	2.22 %
Week 3 Forum Bioluminescence and Deep-ocean organisms	2.22 %
Week 4 Forum Tasty crustaceans	2.22 %
Week 5 Forum The Future of Whaling	2.22 %
Week 6 Forum Climate Change and Changes in Sea-level.	2.22 %
Week 7 Forum Estuaries vs Coral Reefs Which One Would You Save?	2.22 %
Week 8 Forum Fishing and Human Impacts on the Oceans	2.22 %
Weekly Essays	20.00 %
Week 2 Essay Assignment	2.22 %
Week 1 Essay Assignment	2.22 %
Week 3 Essay Assignment	2.22 %
Week 4 Essay Assignment	2.22 %
Week 5 Essay Assignment	2.22 %
Week 6 Essay Assignment	2.22 %
Week 7 Essay Assignment	2.22 %
Week 8 Essay Assignment	2.22 %
Week 8-A Extra-Credit Essay Assignment: Seafood Field Trip	2.22 %
Worksheets	20.00 %
Week 1 Worksheet	2.49 %
Week 8 Worksheet	2.48 %
Week 2 Worksheet	2.49 %
Week 7 Worksheet	2.47 %
Week 3 Worksheet	2.48 %
Week 6 Worksheet	2.49 %
Week 4 Worksheet	2.49 %
Week 5 Worksheet	2.61 %
Exams	20.00 %
SCIN206 Final Exam (Fixed Copy)	9.98 %
SC-206 Mid-Term Exam	10.02 %
Research Project	20.00 %
Research Project	20.00 %

Materials

Book Title: Marine Biology, 9th ed. - The VitalSource e-book is provided via the APUS Bookstore

Author: Castro

Publication Info: McGraw-Hill

ISBN: 9781308348643

Book Title: You must validate your cart to get access to your VitalSource e-book(s). If needed, instructions are available here - <http://apus.libguides.com/bookstore/undergraduate>

Author: N/A

Publication Info: N/A

ISBN: N/A

Required Technology

- See the Technology Requirements section of the undergraduate catalog for the minimum hardware and software requirements.
- Microsoft Office 365 is available to APUS students for free. To sign up, visit <http://products.office.com/en-us/student>. If you have questions about accessing the software, please contact Classroom support at classroomsupport@apus.edu.

Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- [Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.

Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from

any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

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