

University of Houston-Downtown

Course Prefix, Number, and Title: GEOL 1345: Oceanography

Credits/Lecture/Lab Hours: 3/2/2

Foundational Component Area: Life and Physical Sciences

Prerequisites: None

Co-requisites: None

Course Description: An integrated lecture/laboratory course for non-science majors. This course will review the geological, physical, biological, chemical and ecological aspects of the marine environment. Students will collect, analyze and synthesize online, real-time data in order to understand concepts covered in this class.

TCCNS Number: N/A

Demonstration of Core Objectives within the Course:

Assigned Core Objective	Learning Outcome Students will be able to:	Instructional strategy or content used to achieve the outcome	Method by which students' mastery of this outcome will be evaluated
Critical Thinking Empirical & Quantitative Reasoning	Utilize scientific processes to identify questions pertaining to natural phenomena.	Students will be required to analyze real-time data and make conclusions about the data. Example: Ocean Wave Characteristics. Students will investigate the impact of the ocean bottom on wave characteristics using real-world data. (Waves are classified as deep-water when the bottom has no effect while the physical characteristics of both transitional and shallow-water waves are altered by interaction with the bottom).	Student will need to turn in a summary of their assessments of in data analysis and these will be graded for accuracy.
Critical Thinking Empirical & Quantitative Reasoning	Utilize scientific processes to develop hypotheses, collect and analyze data using quantitative and qualitative measures.	Using real-time data from the American Meteorological Society students will have to interpret data and make a hypothesis about the data.	Students must complete online learning modules (two per week) which are coordinated with the textbook chapter. Each activity

		Data supplied about currents or tides, etc. requires students to interpret information both qualitatively and quantitatively.	provides a hands-on learning experience. The second part of each activity is accessed via the Course Web and involves analysis and interpretation of current and archived oceanographic information and data. Assignments are graded.
Critical Thinking Empirical & Quantitative Reasoning Communication	Utilize scientific processes to effectively communicate the analysis and results using written, oral and visual communication.	Student will create a presentation that contains both visual and oral components over a topic in oceanography.	Students must submit written summaries of some module activities and these are graded. This class is taught online. Oral presentations have not been part of this course previously. By 2014, an oral presentation will be included where students will give a presentation using either Skype or Collaborate in Black Board Learn. The presentation will be evaluated on scientific merit and communication skills using a rubric.
Teamwork	Collaborate in the evaluation of the quality of scientific evidence from multiple perspectives toward the goal of reaching a shared objective.	Students will be assigned some modules to investigate in groups. Students will have to work collaboratively (online) to complete the assignments.	Successful completion of the exercise (which required the group to work together) will be incorporated into the grade for the course. Students will submit an assessment of team-work contributions to the instructor and this will be used to determine a percentage of the grade.

Additional Course Outcomes: N/A

Course Topics:

- Ocean in the Earth System
- Ocean Basins and Plate Technonics
- Properties of Ocean Water
- Marine Sediments

GEOL 1345: Oceanography

The Atmosphere and Ocean
Ocean Currents
Ocean Waves and Tides
The Dynamic Coast
Marine Ecosystems
Life in the Ocean
The Ocean, Atmosphere and Climate Variability
The Ocean and Climate Change
The Future of Ocean Science
Ocean Stewardship
Ocean Problems and Policy

Grading/Course Content which Demonstrates Student Achievement of Core Objectives:

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

Summary of Course Exams, Quizzes, Activities, and Final	
Quizzes and Assignments	20%
Investigations Exercises (Lab Projects)	15%
Oral Presentation	5%
Interim Tests (2 @20% each)	40%
Final	20%
Total	100%