



Demonstrate an understanding of the geographic, geologic, chemical, physical and biological concepts of ocean science  
Effectively describe multiple lines of evidence that support our knowledge of plate tectonics, seawater and its movement, coastal environments or the marine ecosystem  
Solve quantitative problems associated with navigation and/or plate motion  
Interpret graphical representations of bathymetry, tides, salinity, temperature or pressure  
Evaluate the logic, validity and relevance of information in assessing evidence in plate tectonics and/or earth structure  
Draw appropriate conclusions from the application of scientific principles to predict future trends based upon current analytical data

7. **Course Objectives** (Identify specific teaching objectives detailing course content and activities. *For some courses, the course objectives will be the same as the student learning outcomes. If this is the case, please simply indicate this in this section).*

- same as SLO's -

8. **Course Content** (Brief but complete topical outline of the course that includes major subject areas [1-2 pages]. Should reflect all course objectives listed above. In addition, you may attach a sample course syllabus with a timeline.)

Introduction to the scope of the course  
    Philosophy of science & the scientific method  
    Geography of the oceans  
    Bathymetry of the oceans  
    Navigation & Field methods  
Geological oceanography  
    Structure and composition of the earth  
    Evidence supporting continental drift  
    Evidence supporting plate tectonics  
    Seafloor spreading & volcanism  
    Features at plate boundaries  
    Other seafloor features  
    Structure of the ocean basin floor  
    Sediments and sedimentation  
Physical & Chemical oceanography  
    Water and Seawater Properties  
    Seawater Composition  
    Stratification  
    Atmospheric circulation  
    Air-Sea interaction  
    Ocean circulation  
    Waves  
    Tides  
    Beaches & Coastal Processes  
Biological oceanography  
    Life in the oceans  
    Classification of marine life  
    Energy transfer  
    Marine resources & management

9. **Representative Instructional Methods** (Describe instructor-initiated teaching strategies that will assist students in meeting course objectives. Include examples of out-of-class assignments, required reading and writing assignments, and methods for teaching critical thinking skills.) **If hours by arrangement are required by this course, indicate the additional instructional activity which will be provided during this time.**

The following methodologies are appropriate. Individual faculty will use whatever mix of these they find most effective in the presentation of each topic.

Lecture presentation supplemented by visual aids (transparencies, photos, powerpoint presentations, movies, maps), in-class demonstration, instructor-led class discussion, hands-on experience with geologic or biologic samples, in-class review games, required reading of text, required homework on key terms and concepts, required current event summary, optional homework reviewing terms & concepts and field trips (optional or required). One hour by arrangement per week is required for additional instruction and self-testing utilizing the textbook's CD-ROM and publisher's website.

10. **Representative Methods of Evaluation** (Describe measurement of student progress toward course objectives. Courses with required writing component and/or problem-solving emphasis must reflect critical thinking component. If skills class, then applied skills.)

Instructors have considerable discretion in determining course grades, but the department expects in-class tests to account for the majority of the final grade. Homework, quizzes, in-class assignments, and projects typically combine to account for the non-test portion of the grade. Methods of evaluation include written tests with both objective questions (true/false, multiple choice, matching) and short-essay questions, in-class exercises, homework, pop-quizzes, current event projects, presentations, worksheets and participation in class discussions.

11. **Representative Text Materials** (With few exceptions, texts need to be current. Include publication dates.)

Garrison, Essentials of Oceanography, 4th edition, Brooks/Cole, 2006.

or

Trujillo & Thurman, Essentials of Oceanography, 9th edition, Pearson/Prentice Hall, 2008

Prepared by:

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Submission Date:

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