

1. Course Number and Title  
ORE 202, Ocean Technology - Man in the Sea
2. Credits and Contact Hours  
Two 1.25-hour sessions per week. Course is 3 credits. It can fulfill the undergraduate diversification requirements for a physical science course and is an effort to offer more undergraduate introductory ocean engineering courses
3. Course Coordinator's Name  
Rotation among faculty
4. Textbooks and/or Other Reading Material  
Textbook: Garrison, T., *Oceanography-An invitation to Marine Science*, Brooks/Cole, 2002.  
Reference:
  - a. *National Geographic Atlas of the World*, latest edition
  - b. Supplemental materials and readings are posted on the class website
5. Specific course information
  - a. The course is a survey of human activities in the ocean from the most traditional to the most innovative technical and engineering accomplishments. The course builds on a basic mastery of oceanographic principles and then goes on to apply these principles to ship and floating structure design, submersibles and seafloor instrumentation, acoustics, coastal engineering problems, offshore energy and mineral deposits. The course ends with speculation on where this growing body of marine technology may lead human civilization.
  - b. Prerequisites and co-requisites: None - This is an introductory course
  - c. Designation: Elective, not specifically part of the ORE Master's program
6. Specific goals for the course
  - a. To understand the geological, biological, physical and chemical oceanographic principles underlying marine technology. To gain an understanding of the major components of ocean engineering including coastal, offshore resources and acoustical engineering and instrumentation. To master the ability to articulate the engineering, environmental, economic and energy issues involved in ocean technology development and hence man's role and future in the sea.
  - b. Student Outcomes: (1) Fundamentals. (2) Core program. (6) Communication. (9) Research and experimentation. (10) Constant learning.
7. Topics Covered
  - a. Geological oceanography.
  - b. Physical oceanography.
  - c. Chemical oceanography.
  - d. Biological oceanography.
  - e. Offshore engineering and naval architecture.
  - f. Acoustics.
  - g. Coastal engineering.
  - h. Marine mineral deposits and mining.
  - i. Offshore energy.
  - j. Future developments in marine technology.