OCE 3008 OCEANOGRAPHY
ABET Course Syllabus

1. **Course number and name:** OCE 3008 Oceanography

2. **Credits and contact hours:** 3 credits / Three 50 minute lectures each week

3. **Instructor's or course coordinator's name:** Dr. Granata

4. **Text book, title, author, and year:**

   Alan P. Trujillo and Harold V. Thurman, *Essentials of Oceanography*, Pearson Education, 11th Ed. (2013), ISBN 978-0-321-81394-7.

5. **Specific course information:**

   (a) Brief description of the content of the course (catalog description): The course deals with nature of sea water; trace and major constituents; the ocean carbon, phosphorous, and nitrogen cycles; basins, continental shelf, deep ocean floor; thermal vents, manganese nodules, marine sediments; marine life; plate tectonics; estuaries and mixing processes; pollution; corrosion and biofouling; winds, waves, tides, currents and ocean circulation processes; energy (heat, light, sound); depth, temperature, salinity, and other physical effects.

   (b) Prerequisites: CHM 2045 or EGN 2095 (with a grade of C or above).

   (c) Indicate whether a required, elective, or selected elective course in the program: Required

6. **Specific goals for the course:**

   (a) Specific outcomes of instruction (course specific objective): The objective of the course is to provide the students with a basic knowledge of the important chemical, physical, geological and biological processes of the marine environment necessary for advancement to higher level marine science/engineering coursework.

   (b) Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course. The learning outcomes of the course (and related ABET Criterion 3) outcomes are:

      1. The broad education necessary to understand the impact of ocean engineering solutions in a global and societal context. (h/4)
      2. Knowledge of contemporary issues involving oceans. (j/4)

7. **Brief list of topics to be covered:**
   - Introduction to planet earth.
   - Plate tectonics and the ocean floor.
   - Marine provinces and marine sediments.
   - Water and seawater.
   - Air-sea interaction.
   - Ocean circulation.
   - Waves and water dynamics.
   - Tides.

- The coastal ocean.
- Biological oceanography.
- The oceans and climate change.