EOC 4804L OCEAN ENGINEERING SYSTEMS CONTROL AND DESIGN LABORATORY
Course Syllabus

1. **Course number and name:** EOC 4804L Ocean Engineering Systems Control and Design Laboratory

2. **Credits and contact hours:** 4 credits / Two 110 minute lectures each week

3. **Instructor's or course coordinator's name:** Dr. P.-P. Beaujean

4. **Text book, title, author, and year:** None

   References:

   Lecture notes provided by instructor.

   Recommended readings: (i) Elements of Ocean Engineering, Robert E. Randall, *SNAME,* 1997, (ii) Submersible Vehicle Systems Design, E.E. Allmendinger, *SNAME,* 1990.

5. **Specific course information:**

   (a) Brief description of the content of the course (catalog description): Completion and execution of the system design project developed in previous EOC 4804 including detail design, final design fabrication, testing, evaluation, and reporting of results in written and oral form.

   (b) Prerequisites or co-requisites: EOC 4804 Ocean Engineering Systems Control and Design (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 introduce students to engineering design and the design process through applied ocean related design projects. Emphasis shall be placed on professionalism, creativity, engineering, design logic and communication.

   (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:

      i. An ability to design a system that satisfies an ocean engineering related need (c/2)
      ii. An ability to function in multidisciplinary design teams (d/5)
      iii. An ability to communicate effectively during the progress review meetings and Final Design Review (g/3)
      iv. An understanding of the potential economic, environmental, and societal impacts of ocean engineering designs (h/4)
      v. A recognition of the need for self-study and life-long learning in engineering design (i/7)
      vi. An understanding of how contemporary issues affect engineering design (j/4)

7. **Brief list of topics to be covered:**

   - Team Work
   - Systems Integration
   - Functional and Performance Testing
   - Cost & Budgeting

- Project Management & Scheduling
- Risk & Reliability
- Sensors & Navigation
- Control Systems Implementation