COURSE CHANGE REQUEST
Undergraduate Programs

UUPC Approval _2/24/25_

UFS Approval _____

SCNS Submittal _____

Confirmed _____

Banner Posted _____

Catalog _____

Department	
College	

Current Course Prefix and Number	*Current* Course Title

*Syllabus must be attached for **ANY** changes to current course details. See Checklist. Please consult and list departments that may be affected by the changes; attach documentation.*

Change title to:

Change prefix

     From: **To:**

Change course number

     From: **To:**

Change credits*

     From: **To:**

Change grading

     From: **To:**

Change WAC/Gordon Rule status**

     Add   **Remove**

Change General Education Requirements***
     Add   **Remove**

 *Review Provost Memorandum
 **WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.
***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.

Change description to:

Change prerequisites/minimum grades to:

Change corequisites to:

Change registration controls to:

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).

Effective Term/Year for Changes:	**Terminate course? Effective Term/Year for Termination:**

Faculty Contact/Email/Phone

Approved by		*Date*
Department Chair	*Pierre Philippe Beaujean*	1/22/2025
College Curriculum Chair	*Yalan Liu*	2/12/25
College Dean		2/13/25
UUPC Chair	*Korey Sorge*	2/24/25
Undergraduate Studies Dean	*Dan Meeroff*	2/24/25
UFS President		
Provost		

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

1. Course title/number, number of credit hours	
EOC 4804 RI: Ocean Engineering Systems Control & Design	3 credit hours

2. Instructional Method

Due to the COVID-19 situation, this course will exceptionally be taught as a hybrid course this semester:

1) Every class material will be posted on CANVAS approximately one week before the lecture, in the form of Powerpoint/Word/PDF/scanned document.
2) The lectures will be offered via ZOOM during scheduled class time. During these lectures, class material, examples and discussions will be offered. ZOOM lectures will be accessed in CANVAS: login CANVAS, select this course, select ZOOM in the left column (it will probably be at the bottom) and click on the upcoming meeting for the appropriate date.
3) Every week, up-to 14 students can sign up to seat in the physical class room (ST250 at the Dania Beach SeaTech campus). To do so, you must use the sign-up tool on CANVAS. Instructions on how to use the tools are provided in the FILE folder "Seat reservation instructions".
4) Quizzes, midterms and finals will also take place online using CANVAS testing features. The procedure will be explained in class.
5) Physical presence will only be required for each lab, in small groups and according to FAU safety regulations. The instructor will provide instructions on when to attend the labs. These labs will take place at the SeaTech building. This course includes 6 labs.

Additional instructions for this Hybrid Course:

6) *Canvas* registration is required.
7) The instructor will regularly post materials/announcements on *Canvas*. It is the student's responsibility to regularly check *Canvas* and FAU email for the most recent information.
8) No hard-copy handouts will be provided. Copies will be posted in files on *Canvas*.
9) If you wish to discuss material with the instructor, you will first need a reliable internet condition capable of streaming ZOOM and WEBEX. Recommended: Broadband Internet connection with a speed of 4 Mbps or higher. To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher. Check your Internet speed here.
10) Students should have an operational computer system equipped with Windows 10 or macOS Sierra (or higher), Microsoft Office, web browser, a webcam, speakers, and microphone, which should be compatible with the most recent version of ZOOM and Cisco WEBEX.
11) These are the links where you can find the steps to use your cell phone as a webcam.
    For Android:
    https://helpdesk.fau.edu/TDClient/2061/Portal/KB/ArticleDet?ID=104057
    For iPhone or iPad
    https://helpdesk.fau.edu/TDClient/2061/Portal/KB/ArticleDet?ID=104056

In the event you might not have a computer, there is a Laptop Loaner Program at FAU for first-generation, low-income students.
https://www.fau.edu/newsdesk/articles/fau-announces-laptop-loaner-program.php

3. COVID 19 Statement

All students in face-to-face classes are required to wear masks during class, and students must sanitize their own workstations upon entering the classroom. Taking these measures supports the safety and protection of the FAU community. Students who do not adhere to these rules will be asked to leave the classroom and/or be removed from the course. Students experiencing flu-like symptoms (fever, cough,

shortness of breath), or students who have come in contact with an infected person should immediately contact FAU Student Health Services (561-297-3512).

4. Course prerequisites, corequisites, and where the course fits in the program of study

Prerequisites: All 3000-level core engineering courses required by the Ocean Engineering Program, excluding EOC3213, and including EOC 4193, EGN 4432, and EOC 4422 (each with a minimum C grade). *Co-requisite:* EOC 4422, EOC 4631C, EOC 4193

5. Course logistics

Term: Fall 2025
This is a classroom with a ZOOM live feed lecture course
Class location and time: T-Th 10-11:20 am (lecture) at Seatech ST250 and via ZOOM
Office hours: T-Th 8:30 am – 10 am (posted on instructor's door)

6. Instructor contact information

Instructor's name	Pierre-Philippe Beaujean
Office address	Rm 225A (Seatech)
Office Hours	TR 8:30 am – 10 am (Seatech)
Contact telephone number	(954) 924-7051 (Seatech)
Email address	pbeaujea@fau.edu

7. TA contact information

TA's name	N/A
Office address	
Office Hours	
Contact telephone number	
Email address	

8. Course description

Ocean engineering design, creativity and professionalism. Ocean systems design, simulation and control. Dynamic modeling, system trade-offs and system evaluation. Feasibility, preliminary and final design for project to be completed in EOC 4804L.

This is a research-intensive (RI) course.

This course contains multiple assignments designed to help students conduct research and inquiry at an intensive level. If this class is selected to participate in the university-wide assessment program, students will be asked to complete a consent form and submit electronically some of their research assignments for review. Visit the Office of Undergraduate Research and Inquiry (OURI) for additional opportunities and information at http://www.fau.edu/ouri.

9. Course objectives/student learning outcomes/program outcomes

Course objectives	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.
Student learning outcomes & relationship to ABET 1-7 objectives	• An ability to design a system that satisfies an ocean engineering related need (2) • An ability to function in multidisciplinary design teams (5) • An ability to communicate effectively during the progress review meetings and Final Design Review (3) • An understanding the potential economic, environmental, and societal impacts of ocean engineering design, and how contemporary issues affect engineering design (4) • An ability to acquire and apply new knowledge towards a detailed engineering design (7)

10. Course evaluation method

Project Grading:

Documentation Skills (30pts)
- Group Preliminary Design Report   10 pts
- Group Critical Design Report   10 pts
- Individual Electronic Engineering Logbook   10 pts

Public Speaking Skills (10pts)
- Group CDR Design Presentation (instructor)   5 pts
- Group CDR Design Presentation (industry)   5 pts

Teamwork Skills (20pts)
- Blind Peer Evaluation   10pts
- Instructor Evaluation   10pts

Design & Analysis Skills & Effort (30pts)
- Quality of assigned design work   15pts
- Quality of assigned analysis work   15pts

Homework (10pts)
- Assignments related to the assigned project

Peer & Instructor Evaluation Criteria
Each student will be evaluated based on his/her
- attendance at and constructive participation in group discussions
- contribution to a fair share of the workload
- quality of work done
- completing work on time
- willingness to volunteer/accept tasks that need to be accomplished
- ability to arrange personal schedule to fulfill commitments to the team

Electronic Engineering Log Book Criteria
Logbooks are organizational and tracking tools that are commonly used to create traceable and legal chronological written records of ones activities. Engineering Logbooks are very useful tools that not only help one remember ones activities, but they are also function to trace hours and personnel costs on different projects, as legal documents in inventions/intellectual property disputes and to prove proper engineering practice, as documentation for ISO certifications, as safety history, etc. For this course, each student is required to maintain individual logbook as well as an MS Excel track of his or her work. The logbook must conform to the following structure:

- All entries must be recorded chronologically (5W's)
- Entries must outline all professional and technical activities such as:
  - engineering tasks (design, analysis, calculations, testing, computer programming, etc)
  - research tasks (literature reviews, patent searches, etc.)
  - meetings (group, with clients, etc.)
  - machining, construction, and assembly tasks
  - testing and evaluation tasks.

The MS Excel spread sheet will be used to track your time working on this project. Time logs are essential in all industries where people work on multiple projects over a contiguous timeline. Time logs provide a record that allows a persons time to be charged appropriately to the projects that they work on. The MS Excel spread sheet must have the following columns:
1) date
2) task description
3) hours worked this period
4) project title
5) cumulative hours worked on project

Weekly Reports and Reviews

Every Tuesday, each project group and the Project Planning Team shall submit a short progress report (1-2 pages) and an MS Project report to the course instructor. **Preparation for the reports must not be done by a single student in a team. The responsibility of writing the weekly reports must be rotated among the team members throughout the semester**.

These reports will be discussed in the Thursday class group meeting. These weekly reviews should continue until the end of the semester. The primary purpose of the weekly reviews is to keep track of the progress and to facilitate better communication among the team members, teams, and the instructor and staff whereas the secondary purpose of the reviews is to provide feedback on teamwork performance. The weekly reports need to summarize the week's accomplishments, with a few sentences or bullets. This should include:
- Summary of work performed and list of tasks accomplished
- A list of planned tasks not accomplished, and a list of Issues, problems or questions that need to be discussed with the instructor
- A list of tasks to be completed in the upcoming week
- Summarize your progress towards the next milestone in your schedule. This should include reasons for any discrepancies between actual progress and plan

11. Course grading scale

A	> 90%	C+	65 – 69.9
A-	85 – 89.9	C	60 – 64.9
B+	80 – 84.9	C-	55 – 59.9
B	75 – 79.9	D	50 – 54.9
B-	70 – 74.9	F	< 50

12. Policy on makeup tests, late work, and incompletes

Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exam should be administered and proctored by department personnel unless there are other pre-approved arrangements

Late work is not acceptable.

Incomplete grades are against the policy of the department. Unless there is solid evidence of medical or otherwise serious emergency situation incomplete grades will not be given.

13. Special course requirements

- *Projects are expected to achieve all six of the following OURI Student Learning Outcomes (SLOs):*
  - *SLO 1: Knowledge. Students are expected to demonstrate content knowledge, and knowledge of core principles and skills.*
  - *SLO 2: Formulate Questions. Students are required to formulate research questions, scholarly or creative problems in a manner appropriate to the planning discipline.*
  - *SLO 3: Plan of Action. Students are expected to develop and implement a plan of action to address research and inquiry questions or scholarly problems.*
  - *SLO 4: Critical Thinking. Students are expected to apply critical thinking skills to evaluate information, their own work, and the work of others.*
  - *SLO 5: Ethical Conduct. Students are expected to identify significant ethical issues in research and inquiry and/or address them in practice.*
  - *SLO 6: Communication. Students will convey all aspects of their research and inquiry (processes and/or products) in appropriate formats, venues, and delivery modes.*

OURI Student Learning Outcomes (SLO)	Description of Assignment Requirements and Assessments
SLO 1: Knowledge	Students will demonstrate a fundamental basis of discipline-specific knowledge required for effective professional practice in the fields of computer and electrical engineering. Students will also demonstrate working knowledge of tools and practical skills needed to analyze engineering design problems related to multiple realistic constraints, such as environmental issues, engineering economics, design codes, ethics, and/or other contemporary design issues.
SLO 2: Formulate Questions	Students will develop and refine a problem statement in which they specifically address their research questions. Students are expected to articulate the scope of the problem to be able to address the research question with an engineering solution. When appropriate, students should be able to create additional (albeit related) questions for smaller subsections of the overall design project.
SLO 3: Plan of Action	Students will create a plan of action that will include the problem statement (or research question), scope of work, literature review and background context, methodology or approach to the solution, analysis plan, conclusion and design documents. Students will develop a hypothesis if needed, identify research methods and alternative designs, and select appropriate statistical techniques, if warranted.
SLO 4: Critical Thinking	Students will demonstrate critical thinking skills by taking into consideration multiple perspectives and examining implications and consequences of design decisions or engineering alternatives. Students will also demonstrate an ability to use evidence and reasoning to objectively justify decisions and an ability to apply codes and design standards to make reasonable engineering judgments. Students are asked to peer review student work and provide feedback during the juried presentations.
SLO 5: Ethical Conduct	Students will familiarize themselves with the Code of Ethics of their engineering discipline. All work is held to the standards established by the governing professional societies of computer and electrical engineering disciplines.
SLO 6: Communication	Students will present and defend their work in written and oral formats (interim and final). All deliverables are expected to be of professional quality. Students are expected to demonstrate knowledge of technical report writing, graphical visualization, and persuasive presentation skills.

14. Classroom etiquette policy

University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.

15. Disability policy statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS)—in Boca Raton, SU 133 (561-297-3880); in Davie, LA 203 (954-236-1222); or in Jupiter, SR 110 (561-799-8585) —and follow all SAS procedures.

16. Attendance Policy
Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate

activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

17. Honor code policy

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high-quality education in which no student enjoys unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and place high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. See University Regulation 4.001 at www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf

18. Counseling and Psychological Services Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau,edu/counseling/

19. Required texts/reading

Lecture notes provided by instructor.

20. Supplementary/recommended readings

Elements of Ocean Engineering, Robert E. Randall, *SNAME,* 1997
Submersible Vehicle Systems Design, E.E. Allmendinger, *SNAME,* 1990
- http://ocw.mit.edu/courses/aeronautics-and-astronautics/16-885j-aircraft-systems-engineering-fall-2005/readings/sefguide_01_01.pdf
- www.sagepub.com/upm-data/54195_Chapter_7.pdf

21. Course topical outline, including dates for exams/quizzes, papers, completion of reading

Systems Engineering Topics:
- Introduction to an engineering design process
- Project management & scheduling
- Teambuilding
- Requirements analysis
- Functional analysis
- Trade studies
- Subsystem interfaces
- Risk management

Ocean Engineering Topics:
- Technical standards and codes
- Pressure vessel design
- Hydrodynamic drag estimation
- Electrical power system design
- Circuit schematic diagrams
- Micro-controller and applications
- Basic software design
- Sensor data and interface
- Basic navigation and control

Milestones:
8-Sep   Conceptual Design Report
8-Oct   Preliminary Design Draft Report

13-Oct   OURI application packages must be submitted
22-Oct   Preliminary Design Revised Report
19-Nov   Critical Design Draft Report
24-Nov   Critical Design Review Presentations - Rehearsal
3-Dec   Critical Design Review Event
10-Dec   9 - 10:15 AM Evaluations - Spring Planning - Critical Design Revised Report

No class on:
September 7 (Labor Day); Nov. 11 (Veteran's Day, observed); November 26-29 (Thanksgiving Recess)