

December 1, 2003

Memorandum

To: Clayton Baum, Curriculum Committee Chair

Through: E. Kalajian, Associate Dean, COE  
G. Maul, DMES, Head

Approved:  12-9-03.

From: A. Zborowski, Ocean Engineering Program 

Subject: Revisions to Ocean Engineering Program

The requests for changes to the Ocean Engineering curriculum are to:

1. Delete "Humanities Elective" one of two humanities electives in the senior year. The undergraduate core curriculum requires 9 semester hours of humanities (including HUM 2051 and HUM 2052). In the present OE curriculum there are 12 semester hours of humanities.

2. Add a new course OCE Restricted Elective in the spring of the senior year to replace the deleted humanities elective. This action is a result of the discussion of the capstone design course sequence issue by the program faculty and the ABET reviewer, and is suggested in the Program Audit Form to extend the major design experience from the junior to the senior year.

3. Add a new design course OCE 4563 Port & Harbor Design to be taught as a design elective in the spring semester of the senior year. This is a result of the ABET evaluation of the program.

With this addition, in each program area of concentration a senior design project will be offered as an extension to the existing capstone design sequence of courses, viz.:

- a) naval architecture - OCE 4575 Design of High-Speed Small Craft (Fall)
- b) coastal engineering - OCE 4563 Port & Harbor Design (Spring)
- c) underwater technology - OCE 4542 OE System Design (Spring)
- d) instrumentation - OCE 4531 Instrumentation Design & Measurement Analysis (Fall)

The addition or removal of any graduation requirement in a major requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

College/School Engineering Department DMES

Degree level B.S. Program title Ocean Engineering

To be initiated with catalog year 20 04 /20 05

Brief description of requested changes (attach a more detailed description and any supporting documentation)

1. Delete one Humanities Elective

2. Add OCE Restricted Elective

APPROVALS

On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Office of the Registrar.

Originator [Signature] Date 12/08/03 Chair, Graduate Council Date

Department Head/Program Chair [Signature] Date 12/08/03 OR

Dean or Associate Dean [Signature] Date 12-9-03 Chair, Undergraduate Curriculum Committee Date

Registrar's Use Only Operator Init Date

Distribution: Original - Registrar Copy - Academic Unit/SEGS

**This course is available for student registration only after the approval process has been completed.**

Subject OCE Course No. 4563 Credit Hours 3 Term to be added to the file SP 05  
Alpha Prefix (e.g., CSE) Number Choice (e.g., 1301) (e.g., Fall 2003)

Class Hours 3 Lecture Hours 3 Lab Hours -- Contact Hours (CEU only) \_\_\_\_\_

Department of Marine & Environmental Systems Schedule Type Lecture  
(e.g., Computer Sciences) (e.g., lecture, lab or special project)

College/School  College of Engineering-01  School of Aeronautics-03  SEGS-90  
(Please check appropriate box)  College of Science and Liberal Arts (science)-20  School of Management-22  
 College of Science and Liberal Arts (liberal arts)-21  School of Psychology-05

Computer Title (restricted to 25 spaces, including blanks) Port and Harbor Design

Catalog Title Port and Harbor Design

Catalog Description of Course (limited to 350 characters, including spaces)

The design of port and harbor facilities including navigation channels, dredging, mooring and berthing structures for large ships. Includes considerations of vessel characteristics, facility types, and environmental and operational design loads on marine structures.

In addition, you may attach a course syllabus and/or more detailed description.

Restrictions  Prerequisite OCE3030 or CVE3030 Corequisite \_\_\_\_\_ Grades to be issued  
(course number) (course number)  A, B, C, D, F  
 Prerequisite MAE 3083 Corequisite \_\_\_\_\_  S, U  
(course number) (course number)  P, F  
 Prerequisite \_\_\_\_\_ Corequisite \_\_\_\_\_  Other \_\_\_\_\_  
(course number) (course number)

Additional Restriction \_\_\_\_\_  
(e.g., major, class level, department head approval)

If this course replaces a course currently offered in BANNER, please indicate old course information

Subject Alpha Prefix (e.g., CSE) \_\_\_\_\_ Course No. (e.g., 1301) \_\_\_\_\_

**APPROVALS**  
 Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Coordinator.

[Signature] 12/19/03 \_\_\_\_\_  
Originator Date Chair, Graduate Council Date  
[Signature] Zln \_\_\_\_\_  
Department Head/Program Chair OR  
[Signature] \_\_\_\_\_  
Dean or Associate Dean Date Chair, Undergraduate Curriculum Committee Date

<b>CATALOG COORDINATOR</b>	<b>REGISTRAR'S USE ONLY</b>			
	SCACRSE _____	SCADETL _____	SCAPREQ _____	SCABASE _____
Catalog Coordinator _____	Date _____	SCARRES _____	Operator Init _____	Date _____

## Revised Ocean Engineering Curriculum

### Freshman Year

FALL	CREDITS		
BUS	1301	Basic Economics*	3
CHM	1101	General Chemistry 1	4
COM	1101	Composition and Rhetoric	3
MTH	1001	Calculus 1	4
OCN	1010	Oceanography	3
			17
SPRING			
COM	1102	Writing about Literature	3
MTH	1002	Calculus 2	4
OCE	1001	Introduction to Ocean Engineering	3
PHY	1001	Physics 1	4
PHY	2091	Physics Lab 1	1
		Restricted Elective (Computer Sc.)	3
			18

\*Or Social Science Elective

### Sophomore Year

FALL	CREDITS		
MAE	2081	Applied Mechanics: Statics	3
MTH	2001	Calculus 3	4
PHY	2002	Physics 2	4
PHY	2092	Physics Lab 2	1
OCE	3011	Engineering Materials	3
OCE	3012	Engineering Materials Lab	1
			16
SPRING			
HUM	2051	Civilization 1	3
MAE	2082	Applied Mechanics: Dynamics	3
MAE	3083	Mechanics of Materials 3	
MTH	2201	Differential Equations/Linear Algebra	4
OCN	xxxx	Restricted Elective (Oceanography)	3
			16

### Junior Year

FALL	CREDITS		
COM	2223	Scientific and Technical Communication	3
HUM	2052	Civilization 2	3
OCE	3030	Fluid Mechanics	3
OCE	3033	Fluid Mechanics Lab	1
OCN	3401	Physical Oceanography	3
		Free Elective	3
			16
SPRING			
ECE	4991	Electric and Electronic Circuits	3
MAE	3191	Engineering Thermodynamics 1	3
OCE	3521	Hydromechanics and Wave Theory	3
OCE	3522	Water Wave Lab	1
OCE	4541	Ocean Engineering Design	3
OCE	4571	Fundamentals of Naval Architecture 1	3
			16

SUMMER

OCE	4911	Marine Field Project 1	1
OCE	4912	Marine Field Project 2	2
OCE	4913	Marine Field Project 3	3
			6

Senior Year

FALL CREDITS

CVE	3015	Structural Analysis and Design	3
OCE	4525	Coastal Engineering: Structures	3
OCE	4545	Hydroacoustics	3
OCE	xxxx	Restricted Elective (Ocean Engineering)*	3
		Humanities Elective	3
			15

SPRING

CVE	4000	Engineering Economy and Planning	3
OCE	4518	Protection of Marine Materials	3
OCE	4561	Fundamentals of Offshore Engineering	3
<b>OCE</b>	<b>xxxx</b>	<b>Restricted Elective (Ocean Engineering)*</b>	<b>3</b>
		Technical Elective	3
			15

TOTAL CREDITS REQUIRED 135

\* At least one OCE Restricted Elective must be chosen from the following courses:

- OCE 4531 Instrumentation Design and Measurement Analysis
- OCE 4542 OE System Design
- OCE 4563 Port and Harbor Design
- OCE 4575 Design of High Speed Small Craft