

UGPC APPROVAL \_\_\_\_\_  
UFS APPROVAL \_\_\_\_\_  
CATALOG \_\_\_\_\_

**Graduate Programs—PROGRAM CHANGE REQUEST**

DEPARTMENT: OCEAN AND MECHANICAL ENGINEERING

COLLEGE: ENGINEERING AND COMPUTER SCIENCE

PROGRAM NAME:  
MS IN OCEAN ENGINEERING;  
PHD IN OCEAN ENGINEERING

**EFFECTIVE DATE**

(PROVIDE TERM/YEAR)

FALL 2017

PLEASE EXPLAIN THE REQUESTED CHANGE(S) AND OFFER RATIONALE BELOW AND/OR ATTACHED:

THIS IS A REVISION TO AN APPROVED PROPOSAL FOR A NEW DISTANCE LEARNING CERTIFICATE PROGRAM IN OFFSHORE ENGINEERING FOR THE ENERGY SECTOR TO BE OFFERED THROUGH DEDECS. THE PROPOSED PROGRAM WOULD REQUIRE MINIMAL EFFORT SINCE ALL THE COURSES IN THE PROGRAM ARE ALREADY OFFERED VIA DEDECS. THE NEW CERTIFICATE PROGRAM IS EXPECTED TO INCREASE GRADUATE STUDENT ENROLLMENT AND ALSO IMPROVE PRODUCTIVITY.

THE PROPOSED REVISIONS ARE:

- (A) FOUR (4) COURSES INSTEAD OF SIX (6) TO BE COMPLETED WITH A GPA OF 3.0 OR BETTER
- (B) THE REMOVAL OF MATHEMATICAL METHODS IN OCEAN ENGINEERING 1 (EOC 5172) AND PHYSICAL ASPECTS OF OCEANOGRAPHY (OCP 6050) FROM THE COURSE CURRICULUM.

THESE CHANGES HAVE BEEN APPROVED BY THE DEPARTMENT GRADUATE COMMITTEE.

Faculty contact, email and complete phone number:  
Tsung-Chow Su Eng.Sc.D.  
561-297-3896

Consult and list departments that might be affected by the change and attach comments.  
None – the change is only to this department based on classes offered

Approved by:

Department Chair: Jarred Lelen

College Curriculum Chair: \_\_\_\_\_

College Dean: Christina...

UGPC Chair: Wm R. McDaniel

Graduate College Dean: Robert R. Skyp...

UFS President: \_\_\_\_\_

Provost: \_\_\_\_\_

Date:

9/15/16

11-9-2016

11-14-16

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

GRADUATE COLLEGE

JUL 07 2015



COLLEGE OF ENGINEERING & COMPUTER SCIENCE  
Department of Ocean & Mechanical Engineering  
777 Glades Road, ENG 190  
Boca Raton, FL 33431  
tel: 561.297.3430 fax: 561.297.3885

19<sup>th</sup> March 2015

## MEMORANDUM

**From:** Tsung-chow Su , Chair, Graduate Committee, Dept. of Ocean and Mechanical Engineering, FAU

**To:** Graduate Programs Committee, College of Engineering and Computer Science, FAU

**Subject:** **Revision of an Approved** Proposal for a Distance Learning Certificate program in Offshore Engineering for the Energy Sector

**cc:** OME faculty.

Attached, please find a revised proposal from the Department of Ocean and Mechanical Engineering to start an online MS (non----thesis) program, to be offered through DEDECS, in Offshore Engineering for the Energy Sector. Administering the proposed program would require only a minimal effort since all the graduate courses in the program are already offered via DEDECS. The proposed program is expected to increase the student enrollment in the graduate program, and therefore FTE and productivity, substantially.

**Encls.**

## **Department of Ocean and Mechanical Engineering, Florida Atlantic University**

### **Online Certificate Program in Offshore Engineering for the Energy Sector to be offered through DEDECS (formerly FEEDS)**

**Proposal:** An Distance Learning Certificate Program in Offshore Engineering for the Energy Sector to be offered through DEDECS, is proposed.

**Introduction and Rationale:** In the US, at present, there are fewer than 10 programs that offer graduate degrees in Ocean Engineering. Recent trends and future needs point to increased demand for Ocean Engineers, in particular by the Oil and Gas industry, offshore industry and clean energy sectors. It is difficult for the present on---campus OE graduate programs (recruitment into which has to consider financial assistantships and tuition waivers also) to meet the demand.

For those living in regions that do not have University programs in Ocean Engineering, it may not be always possible, for economic or family reasons, to relocate in order to pursue a graduate degree in Ocean Engineering. The same would be the case for working professionals to pursue graduate degree if it requires taking classes on campus. One particular need is seen to be workers in the Energy Sector who want to expand their expertise into the offshore oil and gas industry. The proposed online certificate program is aimed to cater to above groups of engineers. Florida Atlantic University pioneered the discipline of Ocean Engineering and the world---wide recognition of the program would attract students from other states and overseas also. For the College and the Department, the program could increase FTE and productivity substantially. Specifically, it is expected that about 10 students would enroll into the program in the first year; the Department's goal is to reach an enrollment number of about 20 for the online Certificate program by the year 2015.

At present, Florida Atlantic University offers MS, MS/BS and PhD, besides BS, degree programs in Ocean Engineering. All of the courses required for the new certificate program are already offered online or delivered to industry sites and centers through DEDECS (<http://www.dedecs.fau.edu/>), which formerly was referred to as FEEDS. The certificate program will include a no new courses. It should be noted that the present MS (non thesis) program requires a minimum of only 15 credits courses offered by Ocean Engineering and allows remaining 18 credits of coursework to be selected in consultation with the advisor. The students enrolling for the on---line program will be advised by the members of the Department's graduate committee and the graduate program coordinator and will be required to take five of the courses currently offered as part of the MS program in Ocean Engineering.

**Admission and Graduation Requirements:** The certificate program will be open to students who have a BS degree in a related field of engineering, a GPA of at least 3.0 or equivalent (to ensure equivalency to graduate standing) and must satisfy the pre requisites required for each course in the program. F o u r courses in the program must be competed with a GPA of 3.0 or better. All course materials will be in English and all international students must demonstrate proficiency in English to enter the program.

**Curriculum:** The courses, five of which must be completed for the certificate program in Offshore Engineering for the Energy Sector, are given in the Table 1 (on the next page). The courses in the Spring semester have prerequisites in the Fall semester.

	<b>Courses (all are 3 credit hour courses)</b>
	EOC6317 Eng. Principles of Acoustics EOC6216 Corrosion I EOC6185 Advanced Hydrodynamics 1 EGM6533 Advanced Strength Of Materials
	EOC6515 Hydrodynamic Aspects of Ship Design (Prerequisite EOC6185)  EOC6431 Offshore Structures (Prerequisite EGN3331 and EOC3410 or equivalent)



**Top**

### Corrosion Graduate Certificate

The State of Florida, because of its geographic location on the Atlantic Ocean and Gulf of Mexico, is especially impacted by corrosion-related issues. However, the number of engineers with special expertise in corrosion or with an advanced degree in corrosion is not on track to satisfy the need for such experts. This online certificate program requires satisfactory completion of four of five 3-credit courses, all of which are already offered online and through the Division of Engineering Distance Education and Career Services (DEDECS).

### Admission

The Corrosion certificate is open to students who have a B.S. degree in a related field of Engineering, have a GPA of at least 3.0 or equivalent (to ensure equivalency to graduate standing) and have satisfied all the prerequisites required for each course in the program. Four of the five courses listed, including Corrosion 1 and 2, count toward the certificate and must be completed with a GPA of 3.0 or better. All course materials are in English; all international students must demonstrate proficiency in English to enter the program.

Required Courses		
Advanced Fracture and Failure Processes 1	EOC 6157	3
Corrosion 1	EOC 6216C	3
Corrosion 2	EOC 6218C	3
Physical Metallurgy	EOC 6230	3
Offshore Structures	EOC 6431	3

### Offshore Engineering Certificate

In the US, at present, there are fewer than 10 programs that offer graduate degrees in Ocean Engineering. Recent trends and future needs point to increased demand for Ocean Engineers, in particular by the Oil and Gas industry, offshore industry and clean energy sectors. It is difficult for the present on-campus OE graduate programs (recruitment into which has to consider financial assistantships and tuition waivers also) to meet the demand.

For those living in regions that do not have University programs in Ocean Engineering, it may not be always possible, for economic or family reasons, to relocate in order to pursue a graduate degree in Ocean Engineering. The same would be the case for working professionals to pursue graduate degree if it requires taking classes on campus. One particular need is seen to be workers in the Energy Sector who want to expand their expertise into the offshore oil and gas industry. The proposed online certificate program is aimed to cater to above groups of engineers. Florida Atlantic University pioneered the discipline of Ocean Engineering and the world-wide recognition of the program would attract students from other states and overseas also. For the College and the Department, the program could increase FTE and productivity substantially. Specifically, it is expected that about 10 students would enroll into the program in the first year; the Department's goal is to reach an enrollment number of about 20 for the online Certificate program by the year 2015.

At present, Florida Atlantic University offers MS, MS/BS and PhD, besides BS, degree programs in Ocean Engineering. All of the courses required for the new certificate program are already offered online or delivered to industry sites and centers through DEDECS (<http://www.dedecs.fau.edu/>), which formerly was referred to as FEEDS. The certificate program will include a no new courses. It should be noted that the present MS (non thesis) program requires a minimum of only 15 credits courses offered by Ocean Engineering and allows remaining 18 credits of coursework to be selected in consultation with the advisor. The students enrolling for the on-line program will be advised by the members of the Department's graduate committee and the graduate program coordinator and will be required to take five of the courses currently offered as part of the MS program in Ocean Engineering.

**Admission and Graduation Requirements:** The certificate program will be open to students who have a BS degree in a related field of engineering, a GPA of at least 3.0 or equivalent (to ensure equivalency to graduate standing) and must satisfy the pre-requisites required for each course in the program. Four courses in the program must be completed with a GPA of 3.0 or better. All course materials will be in English and all international students must demonstrate proficiency in English to enter the program.

**Curriculum:** The courses, five of which must be completed for the certificate program in Offshore Engineering for the Energy Sector, are given in the Table 1 (on the next page). The courses in the Spring semester have prerequisites in the Fall semester.

<b>Courses</b> (all are 3 credit hour courses)
EOC6317 Eng. Principles of Acoustics EOC6216 Corrosion I EOC6185 Advanced Hydrodynamics 1 EGM6533 Advanced Strength Of Materials
EOC6515 Hydrodynamic Aspects of Ship Design (Prerequisite EOC6185)
EOC6431 Offshore Structures (Prerequisite EGN3331 and EOC3410 or equivalent)