

## Academic Programs – Ocean Engineering Program

The table of courses in the Ocean Engineering Core should be changed to the following. The changes consist of:

### 1) Course Name Changes:

EOC 3123, EOC 4124, EOC 3306, EOC 4307C, EOC 3410C, EOC 4412, EOC 4201C.

2) Creation of a New Common Course on Vibration Synthesis & Analysis (EGN 4323).

3) Termination of Existing Courses: EOC 3114 (Vibrations).

4) Pre-req changes related to Engineering Math II (MAP 4306), which can be substituted by Computer Applications in ME II (EML 4534).

Ocean Engineering Core		
Introduction to Logic Design	CDA 3201C	4
Circuits 1	EEL 3111	3
Electro-Mechanical Devices	EGM 4045	3
Fundamentals of Engineering	EGN 1002	3
Statics	EGN 3311	3
Dynamics	EGN 3321	3
Strength of Materials	EGN 3331	3
Engineering Thermodynamics	EGN 3343	3
Engineering Materials 1	EGN 3365	3
Fabrication of OE Systems	EOC 2801	1
<b>Vibration Synthesis &amp; Analysis</b>	<b>EGN 4323</b>	3
<b>Ocean Engineering Fluid Mechanics</b>	EOC 3123	4
Ocean Engineering Lab	EOC 3130L	3
Materials 1 – Marine Topics	EOC 3213	1
<b>Acoustics for Ocean Engineers</b>	EOC 3306	3
<b>Structural Analysis</b>	EOC 3410C	3
Ocean Engineering Systems Control and Design	EOC 4804	3
Ocean Engineering Systems Control and Design Project	EOC 4804L	4
Ocean Thermal Systems	EOC 4193	3
Ocean Wave Mechanics	EOC 4422	3

Dynamic Systems	EGN4432	3
Ocean and Environmental Data Analysis	EOC 4631C	3
Choose two of the following four courses:		
<b>Ocean Structures</b>	EOC 4412	4
<b>Ship Hydrodynamics</b>	EOC 4124	4
<b>Underwater Acoustics</b>	EOC 4307C	4
<b>Marine Materials &amp; Corrosion</b>	EOC 4201C	4

Non-Engineering Core (grade of "C" or higher required)		
Engineering Math 1	MAP 3305	3
<b>Engineering Math 2 or Computer Applications in ME II</b>	<b>MAP 4306 (or EML 4534)</b>	3
C for Engineers	EEL 2161	3
Engineering Graphics	EGS 1111C	3
Oceanography	OCE 3008	3

Non-Required Electives		
Professional Development	EOC 2902	1
Ocean Engineering Diving	EOC 2131C	1

**The sample four-year program of study for BSOE should be changed to the following (the changes are highlighted in red).**

First Year, Fall (14 credits)		
College Writing 1	ENC 1101*	3
Engineering Chemistry 1 or General Chemistry I	EGN 2095 or CHM 2045	3
Engineering Chemistry 1 Lab or General Chemistry 1 Lab	EGN 2095L or CHM2045L	1
Calculus for Engineers 1	MAC 2281	4
Fundamentals of Engineering	EGN 1002	3

First Year, Spring (14 credits)		
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College Writing 2	ENC 1102*	3
Oceanography	OCE 3008	3
Physics for Engineers 1	PHY 2043	3
General Physics 1 Lab	PHY 2048L	1
Calculus for Engineers 2	MAC 2282	4

First Year, Summer (10 credits)		
Calculus with Analytic Geometry 3	MAC 2313	4
Engineering Graphics**	EGS 1111C	3
<a href="#">Foundations of Society and Human Behavior course</a>		3

Second Year, Fall (14 credits)		
Engineering Math 1	MAP 3305	3
Physics for Engineers 2	PHY 2044	3
General Physics 2 Lab	PHY 2049L	1
Statics	EGN 3311	3
C for Engineers	EEL 2161	3

Second Year, Spring (13 credits)		
Dynamics	EGN 3321	3
Engineering Thermodynamics	EGN 3343	3
Fabrication of OE Systems	EOC 2801	1
Ocean Engineering Lab	EOC 3130L	3
Engineering Math 2 (or Computer Applications in ME II)	MAP 4306 (or EML 4534)	3

Second Year, Summer (9 credits)		
Circuits 1	EEL 3111	3
<a href="#">Foundations of Global Citizenship course*</a>		3
<a href="#">Foundations of Creative Expressions course</a>		3

Third Year, Fall (15 credits)		
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Dynamic Systems	EGN 4432	3
Strength of Materials	EGN 3331	3
Engineering Materials 1	EGN 3365	3
Introduction to Logic Design	CDA 3201	4
<a href="#">Foundations of Society and Human Behavior course</a>		3

Third Year, Spring (13 credits)		
Acoustics for Ocean Engineers	EOC 3306	3
Ocean Engineering Fluid Mechanics	EOC 3123	4
Ocean Thermal Systems	EOC 4193	3
Structural Analysis	EOC 3410C	3

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Third Year, Summer (9 credits)		
Electro-Mechanical Devices	EGM 4045	3
<a href="#">Foundations of Global Citizenship course</a>		3
<a href="#">Foundations of Creative Expressions course*</a>		3

Fourth Year, Fall at SeaTech Campus (13 credits)		
Ocean Systems Control and Design	EOC 4804	3
Vibration Synthesis & Analysis	EGN 4323	3
Ocean and Environmental Data Analysis	EOC 4631C	3
Materials 1 - Marine Topics	EOC 3213	1
Ocean Wave Mechanics	EOC 4422	3

Fourth Year, Spring at SeaTech Campus (12 credits)		
Ocean Engineering Systems Control and Design Project	EOC 4804L	4
Ship Hydrodynamics***	EOC 4124	4
Marine Materials &	EOC	4

Corrosion***	4201C	
Underwater Acoustics***	EOC 4307C	4
Ocean Structures***	EOC 4412	4
Total		136

\* WAC (Gordon Rule) course

\*\* Engineering Graphics should typically be taken at FAU.

\*\*\* Choose two courses from these four courses.

## Course Descriptions – Ocean Engineering Program

### Remove the following course as it is no longer offered or required

#### **Vibrations (EOC 3114) 3 credits**

*Prerequisites: EGN 3321 or equivalent, EGN 3331 or equivalent and MAP 4306 with minimum grades of "C"*

Free and forced vibrations of single- and multi-degree-of-freedom systems, harmonic, periodic, and shock excitation, impedance concepts, motion sensors, vibration criteria, and simple continuous systems, simple buoys and ocean applications. A grade of "C" or better is required for the major.

### Replace the following course description

#### **Vibrations (EOC 3114) 3 credits**

*Prerequisites: EGN 3321 or equivalent, EGN 3331 or equivalent and MAP 4306 with minimum grades of "C"*

Free and forced vibrations of single- and multi-degree-of-freedom systems, harmonic, periodic, and shock excitation, impedance concepts, motion sensors, vibration criteria, and simple continuous systems, simple buoys and ocean applications. A grade of "C" or better is required for the major.

by

#### **Vibration Synthesis & Analysis (EGN 4323) 3 credits**

MAP 3305 (or MAP 2302), EGN 3321

Free and forced vibration of mechanical systems; damping; periodic and transient excitations; two degree of freedom, and continuous systems

### Change the following course description

#### **Fluid Mechanics 1 (EOC 3123) 4 credits**

*Prerequisites: EGN 3321 or equivalent, EGN 3343 or equivalent, EOC 3130L and MAP 4306, all with minimum grades of "C"*

to

#### **Ocean Engineering Fluid Mechanics (EOC 3123) 4 credits**

*Prerequisites: EGN 3321 or equivalent, EGN 3343 or equivalent, EOC 3130L, MAP 4306 (or EML 4534), all with minimum grades of "C"*

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#### **Fluid Mechanics 2 (EOC 4124) 4 credits**

*Prerequisite: EOC 4422*

to

#### **Ship Hydrodynamics (EOC 4124) 4 credits**

*Prerequisite: EOC 4422*

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#### **Engineering Materials 2 (EOC 4201C) 4 credits**

*Prerequisite: EGN 3365 or equivalent with minimum grade of "C"*

To

**Marine Materials & Corrosion (EOC 4201C) 4 credits**

*Prerequisite: EGN 3365 or equivalent with minimum grade of "C"*

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**Ocean Thermal Systems (EOC 4193) 3 credits**

*Prerequisite: EGN 3343 and MAP 4306 with minimum grades of "C"*

*Corequisite: EOC 3123*

To

**Ocean Thermal Systems (EOC 4193) 3 credits**

*Prerequisite: EGN 3343, MAP 4306 (or EML 4534), all with minimum grades of "C"*

*Corequisite: EOC 3123*

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**Ocean Wave Mechanics (EOC 4422) 3 credits**

*Prerequisite: EOC 3123 with minimum grade of "C"*

*Corequisite: EOC 3114*

To

**Ocean Wave Mechanics (EOC 4422) 3 credits**

*Prerequisite: EOC 3123 with minimum grade of "C"*

*Corequisite: EGN 4323*

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**Structural Analysis 1 (EOC 3410C) 3 credits**

*Prerequisite: EGN 3331 or equivalent with minimum grade of "C"*

To

**Structural Analysis (EOC 3410C) 3 credits**

*Prerequisite: EGN 3331 or equivalent with minimum grade of "C"*

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**Structural Analysis 2 (EOC 4412) 4 credits**

*Prerequisite: EOC 3410C*

To

**Ocean Structures (EOC 4412) 4 credits**

*Prerequisite: EOC 3410C*

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**Acoustics 1 (EOC 3306) 3 credits**

*Prerequisites: EEL 3111, EOC 3130L, MAP 4306*

To

**Acoustics for Ocean Engineers (EOC 3306) 3 credits**

*Prerequisites: EEL 3111, EOC 3130L, MAP 4306 (or EML 4534)*

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**Acoustics 2 (EOC 4307C) 4 credits**

*Prerequisite: EOC 3306*

To

**Underwater Acoustics (EOC 4307C) 4 credits**

*Prerequisite: EOC 3306*

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**Vibrations (EOC 3114) 3 credits**

*Prerequisites: EGN 3321 or equivalent, EGN 3331 or equivalent and MAP 4306 with minimum grades of "C"*

*To*

**Vibration Synthesis & Analysis (EGN 4323) 3 credits**

*Prerequisites: EGN 3321 (or equivalent), EGN 3331 (or equivalent), MAP 4306 (or EML 4534) with minimum grades of "C"*



Approved by: Jayd Cali  
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College Curriculum Chair: [Signature]  
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UUPC Chair: J E [Signature]  
Undergraduate Studies Dean: [Signature]  
UFS President: \_\_\_\_\_  
Provost: \_\_\_\_\_

Date: \_\_\_\_\_  
04/20/2015  
4/23/15  
4/24/15  
5/8/15  
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1. Syllabus must be attached; syllabus checklist recommended; see guidelines and checklist: [www.fau.edu/academic/registrar/UUPC/info](http://www.fau.edu/academic/registrar/UUPC/info)
2. Review Provost Memorandum: Definition of a Credit Hour [www.fau.edu/provost/files/Definition\\_Credit\\_Hour\\_Memo\\_2012.pdf](http://www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf)
3. WAC approval (attach if necessary)
4. Gen. Ed. approval (attach if necessary)
5. Consent from affected departments (attach if necessary)