

# OCEAN ENGINEERING - Catalog Year 2017

Total Credits = **126**

## Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chem I Lab	1	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141 +	Calculus I (A1, B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
	General Education Outcome(s)*	3	
		<b>16</b>	

## Freshman Year *Spring* Semester

Course Code	Description	Cr	
ECN 201	Principles of Microeconomics (A2)	3	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142 +	Calculus II (B3)	4	
OCE 101	Intro to Ocean Engineering	1	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
	General Education Outcome(s)*	3	
		<b>17</b>	

## Sophomore Year *Fall* Semester

Course Code	Description	Cr	
MCE 262	Statics	3	
MTH 243 +	Calculus for Functions of Several Vars (A1, B3)	3	
OCE 205	Ocean Engineering Design Tools	4	
PHY 205	Elementary Physics III Lec (A1, B3)	3	
PHY 275	Elementary Physics III Lab (A1, B3)	1	
		<b>14</b>	

## Sophomore Year *Spring* Semester

Course Code	Description	Cr	
CVE 220	Mechanics of Materials	3	
MCE 263	Dynamics	3	
MTH 244	Differential Equations	3	
OCE 206	Ocean Instrumentation	4	
	General Education Outcome(s)*	3	
		<b>16</b>	

Admission to the COE required for enrollment in "300" level and higher COE courses. Admission requires at least a 2.0 cumulative GPA and a C- or higher in each of the following; EGR 105 & 106, CHM 101/102, MTH 141 & 142, PHY 203/273, and either PHY 204/274 or CHM 112/114

## Junior Year *Fall* Semester

Course Code	Description	Cr	
MCE 354	Fluid Mechanics	3	
OCE 301	Fundamentals of Ocean Mechanics	4	
OCE 310	Basic Ocean Measurement	3	
	Professional Elective**	3	
	General Education Outcome(s)*	3	
		<b>16</b>	

## Junior Year *Spring* Semester

Course Code	Description	Cr	
OCE 311	Coastal Measurements and Applications	4	
OCE 408	Intro to Engineering Wave Mechanics and Littoral Processes	4	
OCE 471	Underwater Acoustics	4	
	Professional Elective**	3	
	General Education Outcome(s)*	3	
		<b>18</b>	

## Senior Year *Fall* Semester

Course Code	Description	Cr	
CHE 333	Engineering Materials	3	
OCE 416	OCE Professional Practice	2	
OCE 421	Coastal Structure Design	3	
OCE 495	Ocean Systems Design Project I***	3	
	Professional Elective**	3	
		<b>14</b>	

## Senior Year *Spring* Semester

Course Code	Description	Cr	
OCE 496	Ocean Systems Design Project II (B2, D1)***	3	
OCG 451	Oceanographic Science	3	
	Professional Elective**	3	
	Professional Elective**	3	
	General Education Outcome(s)*	3	
		<b>15</b>	

\***General Education Outcomes:** if all Outcomes are satisfied in fewer spaces than provided, you must take a course of your choice (Free Elective) to fill each remaining space in order to meet the required earned credit total of your degree plan. See the "General Education Outcomes" section at the bottom of page two for more information on satisfying these requirements.

\*\***Professional Electives:** Any 300-, 400-, or 500-level courses in engineering, MTH, PHY, or OCG. *A minimum of two (2) professional electives must be in OCE.*

\*\*\***OCE 495 and OCE 496:** An *approved* off-campus experience, usually between the junior and senior years, can be substituted for OCE 495 and 496.

+ Course prerequisites include grade requirements in previous coursework, see catalog or eCampus course description for details

SPECIFIED MATHEMATICS, SCIENCE, AND ENGINEERING COURSES											
INTRODUCTORY ENGINEERING						ENGINEERING SCIENCE AND DESIGN					
Sem	Course	Cr	Grade	QP	Note	Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1					CHE 333	3			
	EGR 106 (A4)	2					CVE 220	3			
		<b>3</b>					MCE 262	3			
MATHEMATICS							MCE 263	3			
	MTH 141 (A1 & B3)	4					MCE 354	3			
	MTH 142 (B3)	4					OCE 101	1			
	MTH 243 (A1 & B3)	3					OCE 205	4			
	MTH 244	3					OCE 206	4			
		<b>14</b>					OCE 301	4			
NATURAL SCIENCES							OCE 310	3			
	CHM 101 (A1)	3					OCE 311	4			
	CHM 102	1					OCE 408	4			
	PHY 203 (A1)	3					OCE 416	2			
	PHY 273 (A1)	1					OCE 421	3			
	PHY 204 (A1)	3					OCE 471	4			
	PHY 274 (A1)	1					OCE 495*** [capstone]	3			
	PHY 205 (A1 & B3)	3					OCE 496*** [capstone] (B2 & D1)	3			
	PHY 275 (A1 & B3)	1						<b>54</b>			
						**PROFESSIONAL ELECTIVES					
		<b>16</b>						3			
								3			
								3			
								3			
								3			
								3			
		<b>15</b>									
*GENERAL EDUCATION OUTCOMES											
Sem	Course	Cr	Grade	QP	Note	Sem	Course	Cr	Grade	QP	Note
Science, Technology, Engineering, and Math (STEM) (A1)						Civic Knowledge & Responsibilities (C1)					
---	CHM & PHY (see above)	15	---	---	---						
Social and Behavioral Sciences (A2)						Global Responsibilities (C2)					
	ECN 201	3									
Humanities (A3)						Diversity & Inclusion (C3)					
Arts & Design (A4)						Ability to Synthesize (D1)					
---	EGR 105 & 106 (see above)	3	---	---	---		OCE 496 (see above)	3			
Write Effectively (B1)						Grand Challenge (at least one course must be coded with a "G")					
Communicate Effectively (B2)						Free Elective					
---	OCE 496 (see above)	---	---	---	---	If you fulfill all Outcomes in fewer spaces than indicated on page one, you must use those additional spaces to take course(s) of your choice to reach your degree credit total (126)					
Mathematical, Statistical, or Computational Strategies (B3)											
---	MTH (see above)	11	---	---	---						
Information Literacy (B4)											

\* **General Education Outcomes:** at least 40 credits must be completed. (A1-D1) must be met by at least three credits. A single course may satisfy one or two outcomes, and at least one course must be a "Grand Challenge". No more than twelve credits can be from the same course code except HPR. General education courses may also be used to meet requirements of your major(s) or minor(s) when appropriate.

\*\* **Professional Electives:** Any 300-, 400-, or 500-level courses in engineering, MTH, PHY, or OCG. *A minimum of two (2) electives must be in OCE.*

\*\*\* **OCE 495 and OCE 496:** An *approved* off-campus experience, usually between the junior and senior years, can be substituted for OCE 495 and 496.