

# OCEAN ENGINEERING (FIEP) - CLASS OF 2020

## Freshman Year Fall Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141	Intro Calculus with Analytical Geometry (A1, B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics I Lab (A1)	1	
FRN XXX		3	
		<b>16</b>	

## Freshman Year Spring Semester

Course Code	Description	Cr	
ECN 201	Principles of Microeconomics	3	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142	Intermed Calc with Analytic Geom (B3)	4	
OCE 101	Intro to Ocean Engineering	1	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
FRN XXX		3	
		<b>17</b>	

## Sophomore Year Fall Semester

Course Code	Description	Cr	
MCE 262	Statics	3	
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3	
OCE 205	Ocean Engineering Design Tools	4	
PHY 205	Elementary Physics III (A1, B3)	3	
PHY 275	Elementary Physics Lab III (A1, B3)	1	
FRN XXX		4	
		<b>18</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 Elective Outcome(s)*	3	
FRN XXX		3	
		<b>19</b>	

## 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	
	Approved Professional Elective**	3	
	General Education Outcome(s)*	3	
FRN XXX		3	
		<b>19</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	
	General Elective Outcome(s)*	3	
FRN XXX		3	
		<b>18</b>	

## Semester Abroad

Course Code	Description	Cr	
	Engineering Professional Elective	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
FRN 3XX/4XX		3	
		<b>15</b>	

## International Internship Semester

Course Code	Description	Cr	
FRN 315-316	Language Study Abroad	3-6	
		<b>3-6</b>	

## Senior Year Fall Semester

Course Code	Description	Cr	
CHE 333	Engineering Materials	3	
OCE 416	OCE Professional Practice	2	
OCE 421	Marine Structure Design	3	
OCE 495	Ocean Systems Design Project I***	3	
	Approved Professional Elective**	3	
FRN 4XX		3	
		<b>17</b>	

## Senior Year Spring Semester

Course Code	Description	Cr	
OCE 496	Ocean Systems Design Project II**	3	
OCG 451	Oceanographic Science	3	
	Approved Professional Elective**	3	
	Approved Professional Elective**	3	
	General Education Outcome(s)*	3	
FRN 4XX		3	
		<b>18</b>	

### Specified Math, Science, and Engineering Courses

Introductory Engineering					
Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1			
	EGR 106 (A4)	2			
		3			

Mathematics					
Sem	Course	Cr	Grade	QP	Note
	MTH 141 (A1 & B3)	4			
	MTH 142 (B3)	4			
	MTH 243	3			
	MTH 244	3			
		14			

Natural Sciences					
Sem	Course	Cr	Grade	QP	Note
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
	PHY 205 (A1 & B3)	3			
	PHY 275 (A1 & B3)	1			
		16			

Oceanography					
Sem	Course	Cr	Grade	QP	Note
	OCG 451	3			

Engineering Science and Design (Major)					
Sem	Course	Cr	Grade	QP	Note
	CHE 333	3			
	CVE 220	3			
	MCE 262	3			
	MCE 263	3			
	MCE 354	3			
	OCE 101	1			
	OCE 205	4			
	OCE 206	4			
	OCE 301	4			
	OCE 310	3			
	OCE 311	4			
	OCE 408	4			
	OCE 416	2			
	OCE 421	3			
	OCE 471	4			
	OCE 495*** [capstone]	3			
	OCE 496*** [capstone]	3			
		54			

**Professional Elective					
Sem	Course	Cr	Grade	QP	Note
		3			
		3			
		3			
		3			
		3			
		15			

**\*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 OCE 496.

French Language Requirements				
Sem	Course	Cr	Gr	QP
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN ___	3		
	FRN 412, 473, or 474	3		
	FRN 4___	3		
FRN 101, 102, 391, 392, 393 will not count toward the major.				

General Education Outcome Audit		
	Course	Credit
<b>Knowledge</b>		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	3
A3. Humanities	FRN 1XX/2XX (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
<b>Competences</b>		
B1. Write Effectively		
B2. Communicate Effectively	OCE 496	3
computational strategies	MTH (see above)	11
B4. Information literacy		
<b>Responsibilities</b>		
C1. Civic knowledge & responsibilities		
C2. Global responsibilities	FRN 1XX/2XX (suggested)	3
C3. Diversity and Inclusion		
<b>Inegrate &amp; Apply</b>		
D1. Ability to synthesize	OCE 496	3
<b>Grand Challenge</b>		
of your 40 credits is an approved		
Total General Education Outcome Credits		40