OCEAN ENGINEERING - Catalog Year 2024

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	
		16	

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 (A1, 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	
		17	

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	
		14	

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 Measurements & Instrumentation	3	
OCE 213	Computer Programming in OCE	3	
		15	

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	
ISE 311	Probability & Statistics for Engineers	3	
MCE 354	Fluid Mechanics	3	
OCE 301	Fundamentals of Ocean Mechanics	4	
OCE 315	Hydrodynamics Lab for Ocean Engineers	1	
	Technical Elective**	3	
	General Education Outcome(s)*	3	
		17	

Junior Year *Spring* Semester

Course Code	Description	Cr	
OCE 311	Coastal Measurements and Applications	4	
OCE 394	Design Applications in OCE	3	
OCE 408	Egr Wave Mechanics and Littoral Proc	4	
OCE 471	Underwater Acoustics	4	
	General Education Outcome(s)*	3	
		18	

Senior Year *Fall* Semester

Course Code	Description	Cr	
CHE 333	Engineering Materials	3	
OCE 416	OCE Professional Practice	2	
OCE 495	Ocean Systems Design Project I****	3	
	Professional Elective***	3	
	Professional Elective***	3	
		14	

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	
		15	

*General Education Outcomes: i**f all Outcomes are satisfied in fewer spaces than provided, you must complete additional coursework of your choice (Free Elective) to ensure you have earned at least 120 credits as required to earn a BS degree. See the "General Education Outcomes" section at the bottom of page two for more information on satisfying these requirements.

Technical Elective Requirement: choose one (1) from CVE 354, EGR 313, MCE 341, or OCE 360. A minimum of two (2) courses from the technical and professional electives must be OCE.

***Professional Elective Requirements:** Any 300-, 400-, or 500-level courses in engineering, MTH, OCG, or PHY. A minimum of two (2) courses from the technical and professional electives must be OCE.

+ Course pre-requisites include grade requirements in previous coursework, see catalog or eCampus course description for details.

Name _____   ID # _____

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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			
		3					ISE 311	3			
MATHEMATICS							MCE 262	3			
	MTH 141 (A1 & B3)	4					MCE 263	3			
	MTH 142 (A1 & B3)	4					MCE 354	3			
	MTH 243 (A1 & B3)	3					OCE 101	1			
	MTH 244	3					OCE 205	4			
		14					OCE 206	3			
NATURAL SCIENCES							OCE 213	3			
	CHM 101 (A1)	3					OCE 315	1			
	CHM 102	1					OCE 301	4			
	PHY 203 (A1)	3					OCE 311	4			
	PHY 273 (A1)	1					OCE 394	3			
	PHY 204 (A1)	3					OCE 408	4			
	PHY 274 (A1)	1					OCE 416	2			
	PHY 205 (A1 & B3)	3					OCE 471	4			
	PHY 275 (A1 & B3)	1					OCE 495**** [capstone]	3			
							OCE 496**** [capstone] (B2 & D1)	3			
		16						**57**			
**TECHNICAL ELECTIVE						*****PROFESSIONAL ELECTIVES**				
		3						3			
		3						3			
OCEANOGRAPHY								3			
	OCG 451	**3**						3			
								12			

*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 Behaviorial 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 can use those*					
Mathematical, Statistical, or Computational Strategies (B3)						*additional spaces to take a course(s) of your choice to ensure you reach at least 120 earned credits*					
---	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.

**Technical Elective Requirement: choose one (1) from CVE 354, EGR 313, MCE 341, or OCE 360. A minimum of two (2) courses from the technical and professional electives must be OCE.

***Professional Elective Requirements: Any 300-, 400-, or 500-level courses in engineering, MTH, OCG, or PHY. A minimum of two (2) courses from the technical and professional electives must be OCE.