

# OCEANOGRAPHY - BS, MARINE ECOSYSTEM SCIENCE AND HEALTH TRACK

## Program Requirements

### First Year

Fall		Semester	Credit
		Hours	Hours
CHEM 119	Fundamentals of Chemistry I	4	
ENGL 104	Composition and Rhetoric	3	
GEOS 101	Introduction to the Geosciences	1	
MATH 151	Engineering Mathematics I <sup>1</sup>	4	
OCNG 251 & OCNG 252	Oceanography and Oceanography Laboratory	4	
Semester Credit Hours		16	
Spring			
CHEM 120	Fundamentals of Chemistry II	4	
MATH 152	Engineering Mathematics II <sup>1</sup>	4	
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	4	
American history ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3	
Semester Credit Hours		15	
Second Year			
Fall			
BIOL 111	Introductory Biology I	4	
CHEM 227 & CHEM 237	Organic Chemistry I and Organic Chemistry Laboratory	4	
OCNG 203	Communicating Oceanography	1	
STAT 211	Principles of Statistics I	3	
American history ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3	
Semester Credit Hours		15	
Spring			
BIOL 112	Introductory Biology II	4	
CHEM 228 & CHEM 238	Organic Chemistry II and Organic Chemistry Laboratory	4	
COMM 203 or COMM 205	Public Speaking or Communication for Technical Professions	3	
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	4	
Semester Credit Hours		15	

### Third Year

Fall		Semester	Credit
		Hours	Hours
OCNG 410	Physical Oceanography	3	
OCNG 420	Biological Oceanography	3	
OCNG 456 or OCNG 469	MATLAB Programming for Ocean Sciences or Python for Geosciences	3	
Creative arts ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a> )		3	
Track elective <sup>2</sup>		3	
Semester Credit Hours		15	
Spring			
GEOS 470	Data Analysis Methods in Geosciences	4	
OCNG 430	Geological Oceanography	3	
OCNG 440	Chemical Oceanography	3	
Government/Political science ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science</a> )		3	
Track elective <sup>2</sup>		2	
Semester Credit Hours		15	
Fourth Year			
Fall			
OCNG 303	Professional Communication in Oceanography	3	
OCNG 443	Oceanographic Field and Laboratory Methods	3	
OCNG 481	Seminar	1	
Social and behavioral sciences ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences</a> )		3	
Technical elective <sup>3</sup>		2	
Track elective <sup>2</sup>		3	
Semester Credit Hours		15	
Spring			
OCNG 461	Advanced Oceanographic Data Analysis and Communication	3	
Government/Political science ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science</a> )		3	
Language, philosophy and culture ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture</a> )		3	
Technical elective <sup>3</sup>		3	
Track elective <sup>2</sup>		2	
Semester Credit Hours		14	
Total Semester Credit Hours		120	

<sup>1</sup> A grade of C or better is required.

<sup>2</sup> Select from ATMO 363; BIOL 213, BIOL 214, BIOL 351; CHEM 315, CHEM 362, CHEM 383, CHEM 415; GENE 302; OCNG 350, OCNG 425, OCNG 453, OCNG 456, OCNG 469.

<sup>3</sup> Select from OCNG 400-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/ocng/>), ATMO 201, ATMO 203, ATMO 251, ATMO 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/atmo/>); BIOL 213, BIOL 214, BIOL 300-399 (<http://catalog.tamu.edu/undergraduate/course-descriptions/biol/>); BICH 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/bich/>); CHEM 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/chem/>); CVEN 221; GENE 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/gene/>); GEOG 442/GEOS 442, GEOG 361, GEOG 370/MARS 370, GEOG 390; GEOS 442/GEOG 442, GEOS 444; MATH 251; MATH 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>); PHYS 221; PHYS 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/phys/>); OCEN 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/ocen/>); STAT 212, STAT 400-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/stat/>).