

# COASTAL ENVIRONMENTAL SCIENCE AND SOCIETY - BS

The Coastal Environmental Science and Society program is a Bachelor of Science degree that focuses on natural environmental processes (physical, chemical/biogeochemical, and geological) and social issues (policy, management, economics, law, etc.) related to the development and exploitation of oceanic and coastal resources and ecosystems. The Coastal Environmental Science and Society curriculum provides a solid foundation in oceanography, geology, chemistry, biology and physics with additional coursework in economics, policy and management. The curriculum is specifically geared towards understanding the societal and environmental impacts of resource development and exploitation, with the focus on environmental pollution, sustainable development, biological diversity, fisheries and mariculture development and management, or oil and gas extraction and exploration, wetlands, and global climate change.

There is a growing demand for trained entry-level professionals from both government and industry who understand and can use scientific information in the planning and management processes. With a solid scientific foundation, the Coastal Environmental Science and Society graduates are ideally poised to pursue their careers at the interface between government and businesses operating in marine realm. With suitably chosen electives, our graduates are well qualified to enter Master or PhD programs in marine resource management and policy, environmental sciences, oceanography or related disciplines.

Students in Coastal Environmental Science and Society may choose to establish a minor field of study, for example, in Economics (TAMU) or in Maritime Business Administration (TAMUG) through completion of credits as outlined in the available minors' curriculum pages. Obtaining a minor from a department located at TAMU in College Station with coursework completed in Galveston is also possible. An advisor in the MCES Department can help with course selection and facilitate the minor approval process through another department.

## Program Requirements

### First Year

Fall		Semester Credit Hours
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric <sup>1</sup>	3
MARS 102	Earth and Ocean Science <sup>2</sup>	4
MATH 147 or MATH 151	Calculus I for Biological Sciences or Engineering Mathematics I	4
Semester Credit Hours		15

### Spring

BIOL 111	Introductory Biology I	4
CHEM 120	Fundamentals of Chemistry II	4
MARB 101	Succeeding in Science <sup>2</sup>	3
Select one of the following:		4
MATH 148	Calculus II for Biological Sciences	
MATH 150	Functions, Trigonometry and Linear Systems	
MATH 152	Engineering Mathematics II	
Semester Credit Hours		15

### Second Year

#### Fall

BIOL 112 or GEOL 106	Introductory Biology II or Historical Geology	4
ECON 202	Principles of Economics	3
MARS 210	Marine Geography	3
MARS 280	Coastal and Ocean Resources <sup>2,3</sup>	3
Professional elective <sup>2,4</sup>		3
Semester Credit Hours		16

#### Spring

ECON 203	Principles of Economics	3
MARS 281	Sophomore Seminar in Marine Sciences <sup>2,3</sup>	1
MARS 350	Advanced Computer Applications <sup>2</sup>	2
Select one of the following:		4
PHYS 201	College Physics	
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	
Communication ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication</a> ) <sup>1</sup>		3
Professional elective <sup>2,4</sup>		3
Semester Credit Hours		16

### Third Year

#### Fall

MARS 325	Introduction to GIS for Marine Sciences <sup>2</sup>	3
MARS 420	Biological Oceanography <sup>2</sup>	3
POLS 207	State and Local Government	3
STAT 303	Statistical Methods	3
Professional elective <sup>2,4</sup>		3
Semester Credit Hours		15

#### Spring

MARS 310	Field Methods in Marine Sciences <sup>2</sup>	3
MARS 430	Geological Oceanography <sup>2,3</sup>	4
POLS 206	American National Government	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
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> ) <sup>1</sup>		3
Semester Credit Hours		16

### Fourth Year

#### Fall

MARA 363	The Management Process	3
MARS 432 or POLS 347	Peak Oil, Global Warming and Resource Scarcity <sup>2</sup> or Politics of Energy and the Environment	3
MARS 481	Seminar <sup>2</sup>	1
Select one of the following:		4
MARB 430	Coastal Plant Ecology	

MARS 425 & MARS 426	Coastal Wetlands Management and Coastal Wetlands Delineation Laboratory <sup>2</sup>	
General elective		3
Semester Credit Hours		14
<b>Spring</b>		
MARS 491	Research in Marine Sciences <sup>2</sup>	1
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
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> ) <sup>1</sup>		3
Professional elective <sup>2,4</sup>		3
Professional elective <sup>2,4</sup>		3
Semester Credit Hours		13
Total Semester Credit Hours		120

All electives must be chosen in consultation with, and approved by, the student's academic advisor. Unless courses are specifically listed, see University Core Curriculum at <http://core.tamu.edu/> for a listing of course options for Communication, Mathematics, Life and Physical Sciences, Language Philosophy and Culture, Creative Arts, American History, Government and Political Sciences and Social and Behavioral Sciences. The Graduation requirements include a requirement for 3 hours of I (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of C (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a free or directed elective can be used to satisfy this requirement. See academic advisor.

- <sup>1</sup> The total hours may be increased if the student is required to take remedial math, remedial English, foreign language or the 3-hour University Core Curriculum requirement for International and Cultural Diversity and the 3-hour requirement for Cultural Discourse.
- <sup>2</sup> Indicates required courses in the major. These courses will be used to compute the major GPR. Also, if any upper level MARS or OCNG elective courses are taken, they will be used in the major GPR.
- <sup>3</sup> Designated writing intensive course.
- <sup>4</sup> Recommended professional electives include, but are not limited to: CHEM 316, CHEM 318, MARA 470, MARB 320, MARB 423, MARB 438, MARB 445, MARS 305, MARS 306, MARS 330, MARS 370/GEOG 370, MARS 410, MARS 412, MARS 415, MARS 432, MARS 435, MARS 440, MARS 484, MARS 491 or MARS 489.