

# COASTAL ENVIRONMENTAL SCIENCE AND SOCIETY - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF MARINE RESOURCES MANAGEMENT

The Coastal Environmental Science and Society (CESS) and Master of Marine Resources Management (MMRM) Program allows CESS majors to enter the MMRM graduate program at the beginning of their senior year, enabling students to receive their CESS undergraduate degree (BS) and a MMRM graduate degree in five years. CESS majors who have at least a 3.25 GPA and have fulfilled all of their prerequisite course requirements and otherwise completed 101 or 102 hours by the fall of their fourth year are eligible to apply for the 5-year combined program during their junior year. Applicants to the 5-year combined program submit the same materials (including GRE scores) and are subject to the same admission process and criteria as other MMRM program applicants. Those students whose credentials are judged to be competitive by the mid-January deadline will be admitted.

Admitted students enroll in MMRM graduate courses with an undergraduate classification (U4) during the fall of their fourth year. They are then reclassified as degree-seeking master's students (G7) upon completing 120 credit hours, which typically occurs at the beginning of the fall semester of the fifth year. Students are required to complete the same 2-year, 36-hour curriculum as other graduate students admitted to the MMRM Professional Track (see MMRM curriculum). Students who are interested in the MMRM Research (Thesis) Track are afforded additional flexibility to replace required courses with up to nine hours of research courses (MARS 691) and electives chosen with the approval of their student advisory committee. To comply with the course and work requirements of the Research Track, this program may extend beyond the 5-year window. For specific requirements to comply with the Research Track curriculum, students are asked to consult the MMRM section of the catalog.

Students who choose not to finish the MMRM degree after being admitted to the 5-year combined program may exit the program at any time. Completed MMRM courses will be applied to their bachelor's degree in CESS, as appropriate. Failure to complete the MMRM program will in no way impede their ability to attain a bachelor's degree in CESS when the requirements for that degree are completed. Those who pursue the 5-year combined program obtain both degrees upon the completion of the 5-year combined program, receiving both their Bachelor of Science in CESS and the MMRM degrees at the end of year five. Advising for the 5-year combined program is coordinated by the Department of Marine and Coastal Environmental Science undergraduate and graduate advisors and by the Office of Graduate Studies. Advising will help ensure that interested students have satisfied the prerequisite course requirements for the bachelor's degree so that they may enter the 5-year combined program. CESS students should consult an undergraduate advisor and a graduate advisor for more information.

## Program Requirements

First Year		Semester Credit Hours
<b>Fall</b>		
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
MARS 102	Earth and Ocean Science <sup>1</sup>	4
MATH 147 or MATH 151	Calculus I for Biological Sciences or Engineering Mathematics I	4
<b>Semester Credit Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL 111	Introductory Biology I	4
CHEM 120	Fundamentals of Chemistry II	4
MARB 101	Succeeding in Science <sup>1</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	
<b>Semester Credit Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL 112 or GEOL 106	Introductory Biology II <sup>1</sup> or Historical Geology	4
ECON 202	Principles of Economics	3
MARS 210	Marine Geography <sup>1</sup>	3
MARS 280	Coastal and Ocean Resources <sup>1,2</sup>	3
POLS 207	State and Local Government	3
<b>Semester Credit Hours</b>		<b>16</b>
<b>Spring</b>		
ECON 203	Principles of Economics <sup>3</sup>	3
MARS 281	Sophomore Seminar in Marine Sciences <sup>1,2</sup>	1
MARS 303	Computing and Data Display <sup>1</sup>	3
POLS 206	American National Government	3
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> )		3
<b>Semester Credit Hours</b>		<b>17</b>
<b>Third Year</b>		
<b>Fall</b>		
MARA 363	The Management Process	3
MARS 420	Biological Oceanography <sup>1</sup>	3
MARS 481	Seminar <sup>1</sup>	1
STAT 303	Statistical Methods	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
Professional elective <sup>1,4</sup>	3
<b>Semester Credit Hours</b>	<b>16</b>
<b>Spring</b>	
MARS 430 Marine Geology <sup>1,2</sup>	4
MARS 491 Research in Marine Sciences <sup>1</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> )	3
Professional elective <sup>1,4</sup>	3
Professional elective <sup>1,4</sup>	3
<b>Semester Credit Hours</b>	<b>17</b>
<b>Fourth Year</b>	
<b>Fall</b>	
MARS 325 Introduction to GIS for Marine Sciences <sup>1,3</sup>	3
MARS 625 GIS Use in Coastal Resources <sup>5</sup>	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
Professional elective <sup>1,4</sup>	3
Professional elective <sup>1,4</sup>	3
<b>Semester Credit Hours</b>	<b>15</b>
<b>Spring</b>	
MARA 604 Marine Natural Resource Economics <sup>5</sup>	3
MARS 603 Quantitative Methods for Resource Management <sup>5</sup>	3
MARS 675 Environmental Management Strategies <sup>5</sup>	3
MARS 681 Seminar <sup>5</sup>	1
Professional elective <sup>1,4</sup>	3
Professional elective <sup>1,4</sup>	3
<b>Semester Credit Hours</b>	<b>16</b>
<b>Fifth Year</b>	
<b>Fall</b>	
MARS 635 Environmental Impact Statements and Natural Resource Damage Assessment <sup>5,6</sup>	3
MARS 660 Environmental Conflict Resolution <sup>5,6</sup>	3
PLAN 641 Problems of Environmental Planning Administration <sup>5</sup>	3
MARM elective <sup>5</sup>	3
<b>Semester Credit Hours</b>	<b>12</b>
<b>Spring</b>	
MARS 680 Integrative Analysis in Marine Resources <sup>5</sup>	2
MARM electives <sup>5</sup>	9
<b>Semester Credit Hours</b>	<b>11</b>
<b>Total Semester Credit Hours</b>	<b>150</b>

<sup>3</sup> Recommended professional electives include but are not limited to: ATMO 363; CHEM 227, CHEM 237, CHEM 228, CHEM 238, CHEM 316, CHEM 318; FSCI 360, GEOG 331; MARA 470; MARB 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/marb/>); MARS 303, MARS 305, MARS 306, MARS 310, MARS 330, MARS 340, MARS 370/GEOG 370, MARS 408, MARS 410, MARS 412, MARS 415, MARS 425, MARS 426, MARS 432, MARS 435, MARS 440, MARS 470, MARS 484, MARS 485, MARS 489, MARS 491; MATH 251, MATH 308; POLS 347; OCEN 201, OCEN 265, OCEN 300, OCEN 311, STAT 303,

<sup>4</sup> Credit by exam for MARS 325 and ECON 203 will be awarded after successful completion of MARS 625 and MARA 604, respectively.

<sup>5</sup> The 36-hour professional track curriculum is structured with 24 hours of required courses and 12 hours of optional elective courses. The required courses include a 1 hour seminar to be taken in the student's first year, 8 hours of management, 3 hours of Geographic Information Systems (GIS), 6 hours of resource economics and statistical methods, and 6 hours of law/policy courses. The student in the professional track will choose electives for the remaining 12 credit hours. See MARM curriculum pages of the graduate catalog for additional requirements for the research track (thesis option) curriculum.

<sup>6</sup> Course to be used towards both the undergraduate degree and graduate degree.

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 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 3-hour University Core Curriculum requirement for International and Cultural Diversity may be met with courses used to satisfy other degree requirements. The 3-hour University Core Curriculum requirement for Cultural Discourse may be met with courses used to satisfy other degree requirements.

The program includes a total of 156 hours which up to 6 hours may be applied toward both the Bachelor of Science in Coastal Environmental Science and Society and the Master of Marine Resources Management.

The total hours may be increased if the student is required to take remedial math, remedial English, foreign language, International and Cultural Diversity, and Cultural Discourse courses.

See program admission criteria for more information.

<sup>1</sup> Indicates required courses in the major. These courses will be used to compute the major GPA.

<sup>2</sup> Designated writing intensive course.