

# OCEAN AND COASTAL RESOURCES - 5-YEAR BACHELOR OF SCIENCE/ MASTER OF MARINE RESOURCES MANAGEMENT

5-Year Curriculum: B.S. in Ocean and Coastal Resources (OCRE) and Master of Marine Resources Management (MARM)

The OCRE + MARM Program allows Ocean and Coastal Resources majors to enter the graduate program for a Master of Marine Resources Management at the beginning of their senior year, enabling students to receive their OCRE undergraduate degree (B.S.) and a Master of Marine Resources Management (MARM) graduate degree in five years. Ocean and Coastal Resources majors who have at least a 3.25 GPA and who will have taken all of their prerequisite courses and otherwise completed 101 or 102 hours by the fall of their fourth year will be eligible to apply for the 5-year program during their junior year. Applicants to the 5-year program will submit the same materials (including GRE scores) and be subject to the same admission criteria as other MARM program applicants. Those students whose records are judged to be competitive by the mid-January dead line will be admitted.

Admitted students will be enrolled in Marine Resources Management graduate courses with an undergraduate classification (U4) during the fall of their fourth year. They will then be reclassified as degree-seeking master's students (G7) upon completing 120 credit hours, which will typically occur at the beginning of the fall semester of the fifth year. Students will be required to complete the same 2-year, 36-hour curriculum as other graduate students admitted to the MARM Professional Track (see MARM curriculum). Students who are interested in the MARM Research (Thesis) Track are afforded additional flexibility to replace required courses with up to nine hours of 691 (research) courses and electives chosen with the approval of their 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 MARM section of the catalog.

Students who choose not to finish the MARM degree after being admitted to the 5-year program may exit the program at any time. Completed MARM courses will be applied to their bachelor's degree in Ocean and Coastal Resources, as appropriate. Failure to complete the MARM program will in no way impede their ability to attain a bachelor's degree in Ocean and Coastal Resources when the requirements for that degree are completed. Those who pursue the 5-year program will obtain both degrees upon the completion of the 5-year program, receiving both their Bachelor of Science and the Master of Marine Resources Management degrees at the end of year five. Advising for the 5-year program is a coordinated effort by the Department of Marine Sciences 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 program. OCRE students should consult an undergraduate advisor and a graduate advisor for more information.

## Program Requirements

First Year		Semester
Fall		Credit Hours
BIOL 111	Introductory Biology I	4
GEOL 101 & GEOL 102	Principles of Geology and Principles of Geology Laboratory	4
ENGL 104	Composition and Rhetoric	3
MARS 101	Marine Science Matters <sup>1</sup>	1
MATH 150	Functions, Trigonometry and Linear Systems	4
Semester Credit Hours		16
Spring		
BIOL 112 or GEOL 106	Introductory Biology II or Historical Geology	4
MATH 147 or MATH 151	Calculus I for Biological Sciences or Engineering Mathematics I	4
MARS 210	Marine Geography <sup>1</sup>	3
MARS 252	Introductory Marine Science Laboratory <sup>1</sup>	1
OCNG 251	Oceanography <sup>1</sup>	3
POLS 207	State and Local Government	3
Semester Credit Hours		18
Second Year		
Fall		
CHEM 119	Fundamentals of Chemistry I	4
COMM 203	Public Speaking	3
MARS 280	Coastal and Ocean Resources <sup>1,2</sup>	3
MARS 281	Sophomore Seminar in Marine Sciences <sup>1</sup>	1
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	
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
Semester Credit Hours		18
Spring		
CHEM 120	Fundamentals of Chemistry II	4
ECON 202	Principles of Economics	3
MARA 363	The Management Process	3
POLS 206	American National Government	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
Semester Credit Hours		16
Third Year		
Fall		
MARS 350	Advanced Computer Applications <sup>1</sup>	2
OCNG 420	Biological Oceanography <sup>1</sup>	3

POLS 347 or MARS 432	Politics of Energy and the Environment or Peak Oil, Global Warming and Resource Scarcity	3
Select one of the following: <sup>1</sup>		4
MARS 425 & MARS 426	Coastal Wetlands Management and Coastal Wetlands Delineation Laboratory	
MARB 430	Coastal Plant Ecology	
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
<b>Spring</b>		
MARS 310	Field Methods in Marine Sciences <sup>1,3</sup>	3
MARS 430 or MARS 431	Geological Oceanography-Plate Tectonics <sup>1,2</sup> or Geological Oceanography-Earth's Climate	3
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
Semester Credit Hours		15
<b>Fourth Year</b>		
<b>Fall</b>		
MARS 325	Introduction to GIS for Marine Sciences <sup>5</sup>	3
MARS 481	Seminar <sup>1</sup>	1
MARS 491	Research in Marine Sciences <sup>1</sup>	1
MARS 625	GIS Use in Coastal Resources <sup>5</sup>	3
MARS 676	Environmental Policy <sup>1</sup>	3
Professional elective <sup>1,4</sup>		4
Semester Credit Hours		15
<b>Spring</b>		
ECON 203	Principles of Economics <sup>5</sup>	3
MARA 604	Marine Natural Resource Economics <sup>5,6</sup>	3
MARS 603	Quantitative Methods for Resource Management <sup>1,6</sup>	3
MARS 675	Environmental Management Strategies <sup>1,6</sup>	3
Professional elective <sup>1,4</sup>		4
Semester Credit Hours		16
<b>Fifth Year</b>		
<b>Fall</b>		
MARS 635	Environmental Impact Statements and Natural Resource Damage Assessment <sup>6</sup>	3
MARS 681	Seminar <sup>6</sup>	1
PLAN 641	Problems of Environmental Planning Administration <sup>6</sup>	3
MARM elective <sup>6</sup>		3
Semester Credit Hours		10
<b>Spring</b>		
MARS 680	Integrative Analysis in Marine Resources <sup>6</sup>	2

MARM elective <sup>6</sup>	9
Semester Credit Hours	11
Total Semester Credit Hours	150

<sup>1</sup> Indicates required courses in the Ocean and Coastal Resources major. These courses will be used to compute the major GPR. Also, if any upper level MARS or OCNNG elective courses are taken, they will be used in the major GPR.

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

<sup>3</sup> Field Experience may also be met with MARB 300 plus one credit hour of a field oriented lab course.

<sup>4</sup> Recommended professional electives include but are not limited to: CHEM 316, CHEM 318, MARA 470, MARB 320, MARB 340, MARB 423, MARB 438, MARB 445, MARS 305, MARS 330, MARS 370/GEOG 370, MARS 410, MARS 415, MARS 432, MARS 435, MARS 440, MARS 484, MARS 485, MARS 491 or MARS 489.

<sup>5</sup> Credit by exam for MARS 325 and ECON 203 will be awarded after successful completion of MARS 625 and MARA 604, respectively.

<sup>6</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.

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 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.

Students in the 5-year program will take 12 fewer undergraduate credit hours than the other OCRE students. Graduate courses (6 hours) taken in the fourth and fifth year will be counted as credit towards the OCRE degree.

The total undergraduate credit hours prior to enrolling in graduate courses is 98 after the completion of the 3rd year. After the 3rd year, 10 additional undergraduate hours will be taken, 6 additional hours will be obtained by exam hours of two graduate courses, and 6 hours of MARM elective credits will be used for 6 hours of undergraduate elective credits for a total of 120 undergraduate transcript hours. The total graduate credit hours is 36. Substituting 6 hours of MARM electives for one free and one professional elective and applying 6 hours of credit by exam results in a total of 150 hours. The total hours may be increased if the student is required to take remedial math, remedial English, foreign language or International and Cultural Diversity courses.