Section I: Program Description

Coastal and Marine System Science studies the interactions within the coastal and marine environment which includes most of the critical physical and biological systems which support life on Earth. The mission of the Coastal and Marine System Science (CMSS) program is to support interdisciplinary research and scholarship on the biotic and abiotic components of this zone, including quantitative investigation of socio-economic and political processes. The program addresses this mission by integrating the tools of Earth System Science: biogeochemistry, geographic information science, ecosystem dynamics, and quantitative modeling.

With the increasing efficiency of real-time data collection, transfer, and processing, aided by autonomous observation systems such as satellite sensors, oceanic buoys, and remotely-controlled or autonomous submersibles, Coastal and Marine System Science is at the forefront of extracting meaningful scientific results from large data sets in near real time. Graduates of the CMSS program will demonstrate proficiency in understanding and applying the concepts and principles of all of the natural sciences as well as a working competence in mathematical modeling and geospatial analysis.

All students share a core of five interdisciplinary courses which cover the foundations of mathematical modeling, environmental policy, and case studies in system science. Topical specialized coursework (determined by the graduate advisory committee of each individual student) provides grounding in the specific scientific disciplines needed to effectively manage the coastal and marine system. After the completion of any required leveling courses and all core classes, students must successfully complete a comprehensive examination for advancement to doctoral candidacy. This examination must be scheduled no later than 24 months after initial enrollment. The required dissertation involves an independent, detailed research project of importance to the international scientific community. The graduate advisory committee of each student will guide them through the conception, design, construction, and execution of a systems-based inquiry. Students who earn Ph.D. degrees in the sciences are typically employed in teaching or research positions in universities, or in pure research applications at specialized institutions or governmental agencies.

Student Learning Outcomes
As part of their progression through the Coastal and Marine System Science program
the students will:
• acquire the skills required for system science studies applied to coastal and marine topics such that they are prepared to conduct CMSS original research
• perform original and hypothesis-driven quantitative analyses that will lead to comprehensive verifiable models of natural systems
• emphasize mathematical and/or analytical skills to generate new data and critically evaluate models that will aid in our understanding of dynamic natural systems, become a resource capable of answering environmental “what if” questions by providing comprehensive interpretation
• develop the skills necessary to present and publish their work at national and international venues
• develop the skills necessary to teach effectively a college level class in the area of Sciences and Technology
• develop a skill set and research record such that they can secure employment in universities, federal agencies, private companies or non-governmental organizations where they can apply the skills and knowledge acquired during the program

(Source: 2009-2010 Graduate Catalog)

Section II: Collection Levels

The Coastal and Marine System Science (CMSS) program is an interdisciplinary, doctoral program that includes Biology, Chemistry, Computer Science, Economics, Environmental Science, Geographic Information Systems, Geology, Law, Mathematics, Oceanography and Physics. Certain faculty members from each of these departments also teach in the CMSS program. The program is affiliated with the University’s Harte Research Institute for Gulf of Mexico Studies (http://hri.tamucc.edu).

Higher priority is given to collecting and acquiring resources (including monographs and reports) that focus on the Gulf of Mexico region.

The library adheres to library collection standards set by the State Higher Education Coordinating Board (http://www.thecb.state.tx.us/), the Southern Association of Colleges and Schools (http://www.sacs.org/), and other accreditation agencies.

For more information on call number ranges and collection levels, please refer to the following subject collection development policies: Biology; Chemistry; Computer Science; Economics; Environmental Science (which includes Law and Oceanography); Geographic Information Systems; Geology; and Mathematics.
**Section III: Preferred Collection Formats and Languages**

Preferred Collection Format(s): (1) Electronic for periodicals and indexes; (2) Print for monographs.

Lower-Priority Collection Formats: Microform

Language: English is the language of collection. However, because the Gulf of Mexico region includes Mexico and Cuba, selected titles in Spanish may be purchased (based on feedback from the CMSS faculty members).

**Section IV: Noteworthy Publishers:**

American Chemical Society: [http://www.acs.org](http://www.acs.org)


Elsevier Science: [http://www.elsevier.com](http://www.elsevier.com)

Texas A&M University Press: [http://www.tamu.edu/ypress/](http://www.tamu.edu/ypress/)

University of Texas Press: [http://www.utexas.edu/utpress/](http://www.utexas.edu/utpress/)


**Section V: Weeding Policy**

*(Including Frequency of Collection Assessment):*

The collections that are associated with Coastal and Marine Sciences (in the Main and Reference collections) will be examined, and weeded, every three years.

Weeding criteria include (1) Currency and relevance of material to the curriculum; (2) Updated/revised editions; and (3) Physical condition of the title (please see the “Weeding” section of the General Collection Development Policy).
Section VI: Gift Policy:

The library will accept donations of materials (monographs, periodicals, etc.) in this subject area. All donors are encouraged to fill out, and sign, a form with the Technical Services Department when the library accepts those materials. If the donor allows the library to keep all donated materials, then the library has the discretion about whether to integrate those materials into the collections or use them in another capacity, such as: (1) Donating those titles to another library; (2) Including them in the annual book sale; or (3) Recycling the materials if no other parties or organizations can use the materials. However, the donor can also specify on the form that they would like all donated materials returned to them if the library cannot add those materials to the collections.

The library will add gift books to the collections only if they support the curriculum and student research in Coastal and Marine System Science.

The Library will generally add print periodical titles to its collections under the following conditions: (1) The library already has a current subscription to that title; (2) The library has determined that there is adequate room for older print volumes of that title; (3) The library does not own those titles but they fit the subject’s selection criteria.

Revised by E. Kownslar, 8/3/2009.

Approved by Library Director, 8/15/2009.