



COASTAL AND MARINE SYSTEM SCIENCE DOCTORAL STUDENT HANDBOOK

Academic Year 2020 – 2021



**TEXAS A&M UNIVERSITY
CORPUS CHRISTI**

COLLEGE OF SCIENCE AND ENGINEERING

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TABLE OF CONTENTS

SECTION	PAGE
Section I. Coastal and Marine System Science Program	1
Introduction.....	1
The Ph.D. in Coastal & Marine System Science (CMSS)	1
The CMSS Student	2
Coastal and Marine System Science Staff	3
Get Connected.....	4
Section II. Admission Information.....	5
CMSS Program Admissions Criteria	5
Application Submission	5
Program Requirements & Information	5
Program Deadlines.....	6
Assistantships & Fellowships	6
CMSS Assistantships	7
Teaching Assistantships.....	7
Research Assistantships	7
Harte Research Fellowships.....	7
Eligibility	7
Amounts.....	8
Out-of-State Tuition Waiver	8
Cost of Education.....	8
Doctoral Orientation	8
Section III. Academic Progression.....	9
Enrollment Status.....	9
Fulfilling CMSS Ph.D. Program Degree Requirements	9
Doctoral Program Forms.....	9
Graduation Deadlines.....	10
Commencement	10
The Graduate Advisory Committee	10
Interactions With Other Graduate Students	11
Teaching Requirement	12
Degree Requirements.....	12
Coursework	12
Degree Plan.....	12
Course Load Requirements & Restrictions.....	13

Seminars.....	13
Qualifying Examination & Admission to Degree Candidacy.....	14
CMSS Program Coursework Requirements	16
CMSS Core Curriculum Course Descriptions	16
CMSS Elective Course Descriptions.....	17
Research Prospectus/Proposal	19
The CMSS Research Proposal	20
Preparing The Research Proposal	21
Dissertation Proposal Seminar	22
Format of the Research Proposal Title Page.....	23
Section IV. Dissertation Guidelines.....	26
The CMSS Dissertation	26
Dissertation Seminar & Final Defense/Oral Examination	28
Dissertation Seminar	28
Final Defense/Oral Examination.....	28
Format of the Dissertation Seminar Notice.....	29
Section V. Appendices.....	30
Appendix 1: CMSS Program Application Checklist.....	30
Appendix 2: CMSS Ph.D. Program First-Year Checklist	31
Appendix 3: CMSS Ph.D. Program Degree Requirements Checklist	32
Appendix 4: CMSS Ph.D. Program Timeline	34
Appendix 5: Course of Study.....	35

SECTION I. COASTAL AND MARINE SYSTEM SCIENCE PROGRAM

Introduction

This handbook provides guidance to students applying for and enrolled in the Coastal and Marine System Science (CMSS) doctoral degree (Ph.D.) program at Texas A&M University-Corpus Christi (TAMUCC). It contains information about the requirements for successfully completing the degree, the course of study, selecting an advisor and a graduate committee, choosing a dissertation research topic, admission to degree candidacy, the dissertation defense, and the final oral examination. This handbook should be used in conjunction with the Graduate Catalog: <http://catalog.tamucc.edu> and the procedures outlined in the College of Graduate Studies (CGS) Doctoral Student Handbook available at https://gradcollege.tamucc.edu/current_students/assets/doctoral_handbook.pdf. The CMSS Handbook lists requirements specific to the CMSS program above and beyond what is already described in those two documents. CGS policies and procedures take precedence over those in this handbook.

The CGS Doctoral Student Handbook also contains detailed instructions for preparing the dissertation manuscript. An updated version of this handbook will be published each academic year. As with the graduate catalog, the rules of the handbook that are in effect at the time of entry into the program will apply.

The Ph.D. in Coastal & Marine System Science (CMSS)

The CMSS Ph.D. Program at TAMU-CC integrates traditional scientific disciplines to create a holistic understanding of coastal and marine environments. This is an interdisciplinary program housed in the Department of Physical and Environmental Sciences (PENS). Graduates are broadly educated in the biological, chemical, geological, and physical sciences as well as coastal/marine policy and economics. The CMSS Ph.D. degree is awarded by the College of Science and Engineering. However, students and faculty from a variety of scholarly disciplines participate in the program. All CMSS students share a core of five interdisciplinary courses that cover the foundations of mathematical modeling, environmental policy, and case studies in *system science*. Then, each student pursues a program of specialized topical coursework tailored to the student's research interests.

The **goals** of the CMSS Ph.D. program are to:

- develop graduates who are fully prepared to face current and future cultural, political, economic, and scientific environmental challenges;
- foster an atmosphere that nurtures research and scholarly activities through interdisciplinary approaches; and,
- foster an atmosphere that promotes education from the regional to international level.

The **expectations** of our graduates are to:

- 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; and
- obtain employment in industry, government, academia, or commercial enterprises.

The CMSS Student

Prospective students who wish to pursue the CMSS Ph.D. should come from physical or life science backgrounds with strong emphasis on mathematical and analytical skills. Students accepted into the degree program must have a general undergraduate multidisciplinary knowledge of the biological and physical sciences, as well as mathematics and statistics. A strong background would include a major in one science area and a minor in another science area or mathematics. Students with backgrounds in applied computer science or Geographic Information Systems (GIS) are also of great interest to the program. The CMSS faculty welcomes students from diverse academic paths as well as those who have some research experience.

Graduate study provides advanced, specialized training that strengthens academic and professional competence by broadening scientific horizons as well as developing a specific expertise. Graduate students must assume greater responsibility and exercise more individual initiative than was necessary as an undergraduate. The graduate faculty emphasizes productive research, employ seminar methods more frequently, and anticipate class participation. To be successful in the doctoral program, students must display commitment to independent study, must become familiar with past and current research, and must relate ongoing research to the investigations of other scholars.

Coastal and Marine System Science Program Staff



Dorina Murgulet, Ph.D.
Coordinator, Coastal and Marine System Science
SL 2, (361) 825-3395
dorina.murgulet@tamucc.edu

- Administer and support the CMSS program
- Collaborate with faculty on all issues related to the program
- Collaborate with graduate students to ensure their success



Ronnie Emanuel
Academic Advisor, College of Science and Engineering
CI 350, Phone: 361-825-5777
Advising: 361-825-3928
ronnie.emanuel@tamucc.edu

- Advise on program requirements
- Liaison for student with College of Graduate Studies regarding required documentation submission throughout educational career
- Coordinate with student admission process

Schedule a meeting at: <https://tamuccadvising.science.timetap.com>



Alessandra Garcia
Sr. Administrative Assistant, Physical and Environmental Science Department
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- Assist CMSS Coordinator and faculty
- Create Independent Studies and Research Courses for the CMSS students
- Assist CMSS students for travel arrangement and supply purchasing



Mary Teter
Senior Secretary, Physical and Environmental Science Department
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- Assist CMSS Coordinator and faculty
- Assist CMSS students for travel arrangement and supply purchasing



Richard Coffin Ph.D.
Chair, Physical and Environmental Science Department
NRC 3500, (361) 825-2814
richard.coffin@tamucc.edu

- Administer department that hosts the CMSS program
- Coordinate course scheduling and teaching assignments for faculty

Get Connected

Most official college and program information for students is distributed on listservs. It is required that you join the CMSS listserv by sending a message with “Subscribe” in the subject to cmss-list@sci.tamucc.edu or go to <https://listserv.tamucc.edu/mailman/listinfo>.

List address	Description
cmss-list@listserv.tamucc.edu	CMSS students (REQUIRED)
msgso@listserv.tamucc.edu	Marine Science Graduate Student Association
opportunities-list@listserv.tamucc.edu	Scholarships, internships, jobs, etc.
scitech-gradstudents@listserv.tamucc.edu	Science & Engineering graduate students
escistu-list@listserv.tamucc.edu	Environmental Science students

SECTION II. ADMISSION INFORMATION

CMSS Program Admissions Criteria

Students seeking admission to a terminal degree program with Texas A&M University-Corpus Christi must submit an admission application form, application fee, official transcripts, and program specific supporting documents. All documents **must** be received by the College of Graduate Studies by the designated deadlines (see below).

College of Graduate Studies
6300 Ocean Dr., Unit 5843
Faculty Center, Suite 178
Corpus Christi, TX 78412

gradweb@tamucc.edu
Phone: (361) 825-2177
Fax: (361) 825-2755

Application Submission

To apply, complete the online Apply Texas Form found on the College of Graduate Studies website: http://gradcollege.tamucc.edu/degrees/science/coastal_marine_sys_science.html.

Specific information on University criteria, application procedures, fees, and additional requirements for international applications are found in the CGS Doctoral Student Handbook.

Program Requirements & Information

Below is a summary of the supporting documents required by the CMSS program:

- Completed university graduate application form.
- An essay of about 1000 words describing educational and career goals, interests as they relate to the faculty in the CMSS Program. Persons seeking admission to the PhD Program in CMSS must first contact the program faculty and identify a faculty member willing to serve as the graduate advisor. Applicants will not be admitted to the program without a graduate advisor.
- Three letters of evaluation from people familiar with your scholarly potential.
- Transcripts of all previous undergraduate and/or graduate work (including transcript evaluations of all work done at foreign institutions)*.
- Graduate Record Examination (GRE) scores that are not more than 5 years old.
- Any relevant supplemental materials such as publications or resumes that include information about relevant experiences.
- International students have additional requirements as outlined in the CGS Doctoral Student Handbook. The CMSS program requires TOEFL scores from ETS taken within two years of the date the application was received for students from countries where English is not the native language. See CGS Doctoral Student Handbook for additional information.

*To be considered official, all required postsecondary academic records must be submitted directly from the registrar's office and bear the seal and signature of the registrar of the institution. In some foreign countries, the controller of examinations or principal may certify academic records. Official English translations, not interpretations, are required from most countries.

It is the student’s responsibility to make sure that the application is complete by the deadline to assure full consideration. Acceptance into the CMSS Ph.D. program is competitive and based on consideration of all application materials. Students accepted into the program will typically have demonstrated an ability to succeed in an academically rigorous environment through high GPA and GRE scores. Relevant life experiences may also provide a substantial basis for consideration.

A campus visit with personal interviews involving prospective faculty mentors is highly recommended. To schedule a visit, please contact:

Dr. Dorina Murgulet CMSS Program Coordinator	or	Ms. Alessandra Garcia Sr. Administrative Assistant
dorina.murgulet@tamucc.edu (361) 825-3395		alessandra.garcia@tamucc.edu (361) 825-2814

Program Deadlines

The CMSS program has two types of deadlines: 1) priority deadlines and 2) last decision date deadlines. All students should strive to meet the priority deadline because it is used to make decisions regarding funding of assistantships. All applications after the priority deadline are considered “late” applications. CMSS program deadlines are earlier for international students because of the time required to process visa applications for international students.

CMSS APPLICATION DEADLINES			
International Students	Fall	Spring	Summer
Priority deadline to receive complete applications.	December 1	June 1	December 1
Last date to receive complete applications.	April 15	September 15	December 1
Domestic Students	Fall	Spring	Summer
Priority deadline to receive complete applications.	December 1	August 1	December 1
Last date for receipt of complete applications.	May 15	October 15	March 1

The acceptance process has two steps: 1) vote for acceptance by the CMSS faculty, and 2) final and official acceptance by the College of Graduate Studies. The applicant will be notified of his/her acceptance or rejection by the College of Graduate Studies.

Assistantships & Fellowships

Students seeking full consideration for fellowships or assistantships should have a completed application file submitted by the Priority Deadline of February 1 (Fall admission only). However, applicants must apply separately for scholarships, assistantships, and fellowships at the College website: <http://sci.tamucc.edu/students/gradfunding.html>.

After the priority deadline, any awards will be made on a first come, first served basis. Students who have received offers for fellowships or assistantships must notify the CMSS Program Coordinator (Dorina

Murgulet) and the College of S&E Dean's office of their acceptance within one week of receiving the offer letter. Otherwise, the University will assume that the offer has been rejected and will make offers to other deserving students.

Admission to the program is decided independently of financial awards. Students must first be accepted into the program before financial awards can be considered. For details regarding graduate assistantships, refer to the CGS Graduate Assistantship Handbook at:

https://gradcollege.tamucc.edu/current_students/assets/doctoral_handbook.pdf.

CMSS Assistantships

A limited number of competitive research assistantships are available to CMSS students. Assistantships are available for half-time (20 hour/week) 9-month appointments, with the possibility of funding through the summer term.

The CMSS program coordinator will announce the availability of these assistantships via the CMSS listserv by March 1, together with instructions on how to apply for these assistantships.

Teaching Assistantships

Teaching assistantships are available each year through the College of Science and Engineering; see <http://sci.tamucc.edu/students/gradfunding.html>.

The State of Texas requires international graduate students whose native language is not English to obtain English proficiency certification before serving as graduate teaching assistants. See CGS Graduate Assistantship Handbook for details.

Research Assistantships

A limited number of research assistantships are available through research institutes or centers, and individual faculty members; consult with the institute or center directors and individual faculty members to identify these funding sources. Some graduate research assistantships are administered through the College of Science & Engineering; see <http://sci.tamucc.edu> (select "Student Information").

Harte Research Fellowships

Fellowships are available through the Harte Research Institute for Gulf of Mexico Studies (HRI). These fellowships are for students working with the HRI Endowed Chairs in the Institute. Application is made directly with an HRI Endowed Chair.

Eligibility

All students who hold assistantships must be enrolled as full-time students (at least 9 graduate hours during the fall and spring semesters, and 3 hours during the combined summer session) in the CMSS program. Appointments are for two full semesters (fall and spring). Reappointment requires reapplication each year, and students should not assume that the appointment will continue automatically. Summer assistantships may be available but must be applied for separately. Check the CGS website for additional funding opportunities <http://gradcollege.tamucc.edu/funding>.

Amounts

Salary amount for each assistantship is based on the type of degree program, level of academic progression (e.g., pre- vs. post-candidacy for doctoral students), and/or other factors as determined by the hiring department and approved by the Graduate Dean.

Out-of-State Tuition Waiver

Graduate assistants are eligible for a tuition waiver that reduces tuition to Texas Resident rates. However, this must be applied for each semester and a student must work in a half-time (20 hrs/week) position and be enrolled in 9 credit hours during fall and spring semesters and 3 credit hours during the summer to be eligible for the waiver. To apply for the waiver, visit the College of Graduate Studies website: <http://gradcollege.tamucc.edu/funding/assistantships.html>.

Cost of Education

Graduate education can be expensive and many students may want to estimate their financial commitment. The College of Graduate Studies has information available so that students can estimate the cost of attendance. Visit this website: http://gradcollege.tamucc.edu/funding/cost_of_attendance.html

Doctoral Orientation

A Doctoral Session is offered every Fall and Spring semester as part of the Graduate Student Orientation. For additional information on this event please visit http://gradcollege.tamucc.edu/new_students/orientation.html. A special orientation session is available for doctoral students upon request by the department/program.

Topics covered during the Doctoral session include:

- The College of Graduate Studies
- The Big Picture of Doctoral Degrees
- Getting to the Doctoral Degree
- University and Program requirements

SECTION III. ACADEMIC PROGRESSION

Enrollment Status

All CMSS students are expected to be enrolled full-time, which is 9 hours during the fall and spring semesters and 3 hours during the combined summer session.

In addition, all CMSS students must follow University rules governing graduate studies including, but not limited to: residency, continuous enrollment, recency of credit, leave of absence, transfer credit, degree plans, grade point average, scholastic probation, enforced withdrawal, out-of-state tuition waivers, and the Texas 99-hour rule. All of these rules are described in the College of Graduate Studies Doctoral Student Handbook.

Fulfilling CMSS Ph.D. Program Degree Requirements

Completing a Ph.D. is often described as a degree of perseverance. Progression follows two distinct periods: pre-qualification and post-qualification. The progression to a degree consists of the following steps or milestones:

- A. Pre-Qualification
 1. form a committee
 2. create a degree plan
 3. develop a prospectus
 4. develop a proposal
 5. pass comprehensive/qualifying exams

- B. Post-Qualification
 1. conduct research
 2. write dissertation
 3. defend dissertation

Doctoral Program Forms

Each step of the progression in the doctoral program is accompanied by a requisite form, which is created and maintained by the College of Graduate Studies. Please use the checklist below for a timely submission of required forms. Always download the most recent version of the doctoral forms. These can be found at Graduate School Forms webpage: http://gradcollege.tamucc.edu/contact_us/forms.html

In addition, the forms webpage also include templates for the dissertation title page, copyright page, and committee member page.

All forms are submitted electronically on the College of Graduate Studies Forms webpage. At the bottom of the page, there is a link for uploading a file. Once uploaded, the file is forwarded to committee members and administrators for review, approval, and signature.

If you have questions or require additional information, contact the College of Graduate Studies at (361) 825-2177 or gradweb@tamucc.edu.

Directions: Please use the forms list below to ensure timely submission of required forms. These forms can be found at: http://gradcollege.tamucc.edu/contact_us/forms.html

Form	Timeline
Form A: Preliminary/Final Degree Plan Forms	9 hrs
Form B: Comprehensive Examination and Advancement to Candidacy Report	36 hrs
Form C: Doctoral Dissertation Advisory Committee Appointment Form	9 hrs
Form D: Doctoral Dissertation Proposal Hearing Request Form	36 hrs
Form E: Preliminary Agreement to Schedule the Dissertation Defense/Final Examination	8 weeks prior to graduation
Form F: Dissertation Defense and Written Dissertation Report	5 days following defense
Form G: Graduate Faculty Representative Report	5 days following defense
Form H: Doctoral-Dissertation Committee Member Change Request Form	As needed
Form I: Graduate Degree Plan Exceptions Form	As needed
Form K: Doctoral Request for a Leave of Absence	As needed
Form L: Catalog Change Request Form	As needed

Graduation Deadlines

You must submit a completed application for graduation to your academic advisor by the posted deadline. The application must be obtained and processed through your advisor.

In order to graduate, a series of deadlines must be met. These deadlines are posted by the Graduate School at: http://gradcollege.tamucc.edu/current_students/doctoral_dates.html.

Commencement

For dates, times and location of the commencement ceremonies please visit <http://commencement.tamucc.edu>.

The Graduate Advisory Committee

After enrolled into the CMSS program, the most important first step is forming the graduate advisory committee. In collaboration with their faculty advisor, students should select a graduate advisory committee, to guide them through their degree program by the end of their **first semester** in the CMSS program.

Together, the graduate advisory committee and the student prepare a degree plan detailing the coursework necessary for the student's program of study, select a dissertation topic and formulate a research plan. The graduate advisory committee also approves the dissertation proposal and final manuscript, and administers your qualifying examination and final dissertation defense/oral examination. Signed copies of the degree plan must be sent to the College of Science and Engineering Dean's Office (Academic Advisor) and the College of Graduate Studies by end of **the second long semester**.

Composition and size of the graduate advisory committee should reflect the scope of the intended graduate program and should be developed with substantial input from the student's primary advisor(s). After the committee is formed, your primary advisor will normally become your committee chair. Individual faculty members are under no obligation to serve on your committee or to be your committee chair. The decision not to serve should be based on some definable criteria such as work overload or incompatible research interests.

The graduate advisory committee consists of at least four members, and three members must be of the CMSS Ph.D. faculty, including the committee chair. Additional members from outside the CMSS Ph.D. faculty may

be approved by the College of Graduate Studies (CGS). In exceptional cases, individuals holding graduate faculty rank at TAMU-CC or another accredited institution may serve as co-chair with the unanimous approval of the committee. In all cases involving the appointment of a non-CMSS Ph.D. faculty member, an associate graduate faculty status request accompanied by a curriculum vitae and a rationale for the appointment must be filed with the CGS and provided to the CMSS Program Coordinator. Once the committee is formed, Doctoral Form C (<http://gradschool.tamucc.edu/forms.html>) must be submitted to the CGS.

Upon submission of Form C (Doctoral Dissertation Advisory Committee Appointment Form), CGS will appoint a Graduate Faculty Representative (GFR) to the committee. The role of this appointee is to serve as an impartial member of the committee to ensure the integrity of University standards as they apply to the Ph.D. process. This member attends and participates in the oral portions of the proposal hearing and the final defense/oral examination.

The advisory committee chair supervises the student's dissertation research, including preparation of the dissertation manuscript. The committee as a whole approves the degree plan, research proposal, and dissertation manuscript and administers the qualifying examination and final dissertation defense/oral examination. Beyond these functions, the chair and advisory committee members should serve as valuable mentors.

If possible, students should meet with their committee *by the end of the first long semester but no later than the end of the second long semester*. The goal of the first committee meeting is to allow students to introduce themselves and their academic and research interests to the committee and to finalize a degree plan. Students should remain in close contact with their graduate advisory committee during all phases of graduate study and dissertation research to keep them informed of progress and setbacks. At least annually, students must meet with their advisory committee to update the committee regardless of progress.

Students are responsible for calling required annual meetings of the committee and any other meetings deemed necessary by either the student or a committee member. The student is responsible for maintaining a written record of advisory committee meetings including conclusions reached. The student also submits all necessary paperwork and reports from the graduate advisory committee to the CMSS Administrative Assistant. Copies of meeting notes will be placed in your program file by the CMSS Administrative Assistant.

On occasions it may be necessary to replace a committee member or a committee chair. If such a situation arises, the student should consult his/her committee chair or the CMSS Program Coordinator immediately. The Program Coordinator and the other members of the committee will determine if a change is necessary. The removal or replacement of a committee member requires filing Form H, and agreement of the Committee Chair, Department Chair, and the Program Coordinator.

Should a dispute arise between a student and any committee member, the student should consult his/her committee chair, CMSS Program Coordinator, assigned Graduate Faculty Representative or Department Chair.

Interactions With Other Graduate Students

Graduate education is not a solitary endeavor. Students must make opportunities to discuss their projects with other graduate students and offer to assist others in the field or laboratory. Beyond generating camaraderie, this will give students a more comprehensive understanding of the many specific issues and problems in coastal and marine systems, expose them to a broad array of lab/field techniques, provide ideas for research, and provide opportunities to reciprocate in supporting each other.

Teaching Requirement

All students in the CMSS Ph.D. program must teach at least 3 semester credit hours as Instructor of Record during their tenure as a doctoral student, usually after being admitted to candidacy. The rationale behind this requirement is that many graduates will go on to careers in academia where teaching will be a major activity. However, even those who are employed outside of academia will likely be involved in education at some level and experience teaching will help to prepare them for those types of challenges. The course and timing of the teaching will be negotiated with the CMSS Program Coordinator, the chair of the student's advisory committee, and the appropriate department chair. International students must obtain English proficiency verification if English is not their native language prior to being assigned to teach (see CGS Assistantship Handbook or details).

Degree Requirements

The CMSS Ph.D. degree program consists of five components:

- Coursework
- Qualifying examination (admission to candidacy)
- Research proposal
- Dissertation
- Dissertation defense (research seminar and final defense/oral examination)

Throughout this process, there are three major decision points for the faculty. The first is admission to the program. An affirmative vote of the admissions committee indicates that the faculty believes you have the potential for advanced study. The second decision point occurs after a student has completed most of the required coursework (and any additional leveling coursework), and the graduate advisory committee administers a qualifying examination. The purpose of this step is to determine if the student has followed through by demonstrating potential for advanced study. After successful completion of this examination, a CMSS student becomes a Ph.D. Candidate. The third and final decision point comes when the student completes his/her dissertation. Successful defense of this work leads to the awarding of the Ph.D. degree in Coastal and Marine System Science.

Coursework

Each student accepted to the CMSS Ph.D. degree program must complete a minimum of 90 hours beyond the bachelor's degree or 60 hours beyond the master's degree, including the 15 hour CMSS Core Curriculum (Appendix 1). The majority of credit hours will be in formal research, but the program requires a minimum of 18 credit hours (for students with an M.S. degree) or 30 credit hours (for students without an M.S. degree) of regular graded coursework on a Ph.D. degree plan.

To clarify the expectations of admitted students, those entering the CMSS doctoral program from the BS level will come from programs in the natural science, math or engineering that include at least one year each of biology, chemistry, geology, and physics, as well as Calculus II, and statistics. Those students entering with other degrees will likely need the courses noted above, equivalents, or demonstrated competencies in coastal and marine biological, chemical, geological and physical science. Any student who is unable to demonstrate these interdisciplinary competencies in coastal and marine systems will be required to do leveling work.

Degree Plan

The graduate advisory committee will evaluate your past coursework and experience as well your research interests to formulate a tentative degree plan. *The degree plan must be approved by the end of the **second long semester** by both the graduate advisory committee and CGS. To view the degree plan form visit:*

<http://gradschool.tamucc.edu/forms.html> (Form A). Students who are unable to demonstrate proficiency in the natural sciences, mathematics, or geospatial technology will be required to take undergraduate or graduate leveling courses and possibly complete a master's degree prior to entry into the CMSS doctoral program. In most cases, leveling courses will not apply towards the total minimum credit hours required for the Ph.D. degree.

The *emphasis area* is a phrase that best expresses the student's intended focus within the broad field of coastal and marine systems. The student defines an emphasis area, with assistance from the graduate advisory committee, and then states it on the degree plan. There is no established list of emphasis areas from which to choose. Rather, each student uniquely formulates an emphasis area based upon academic interests. Electives and the research project will normally relate to the emphasis area.

After the graduate advisory committee approves the degree plan, it must be filed with the College of Science and Engineering CMSS Academic Advisor, CMSS Program Administrative Assistant, and CGS. After a tentative degree plan is finalized, the graduate advisory committee and CGS must approve any changes or elective coursework if the courses are to be applied to the total semester hours required for the degree. Exception forms to document these changes can be found at <http://gradschool.tamucc.edu/forms.html> (Form K). Prior to graduation, your Committee Chair will circulate a final degree plan that includes any approved changes from the tentative degree plan to the student, advisory committee, College Dean, and Graduate Dean for final approval.

Course Load Requirements & Restrictions

Unless granted a leave of absence (in writing) by the Graduate Dean, all students are required to maintain continuous registration until all requirements for graduation from the CMSS Program are completed. **Continuous registration is defined as successfully completing 6 credit hours of advisor- or committee-approved coursework during each academic year (September-August). Students who fail to complete 6 hours in any academic year will be classified as inactive. Students who fail to complete at least 3 hours of approved coursework during the next full semester will be dropped from the program.** If you are dropped from the program, you must reapply for admission. In addition to continuous registration, *all students must complete a minimum of 9 credit hours each semester in two consecutive long semesters to meet the residency requirement.*

A graduate student may register for up to 12 hours of coursework in a regular semester, or up to 6 hours in a single summer session. Registration for a higher course load requires approval of the Dean of the College of Science and Engineering.

The minimum number of hours required to define your enrollment status may depend on the requirements of any financial aid you receive. In general:

- CMSS Fellowships: 9 hrs each during Fall and Spring, 3 hrs during either 5-week summer session, or 3 hrs over 10-week summer session.
- Scholarships or Loans: varies, check with lending agency or entity granting the scholarship.
- Other Teaching Assistantships or Research Assistantships: 9 hrs each during Fall and Spring, 3 hrs during either 5-week summer session or over 10-week summer session.

Seminars

All students must also present a Final Dissertation Research Seminar prior to the final dissertation defense/oral examination.

Qualifying Examination & Admission to Degree Candidacy

To be admitted to candidacy for the CMSS Ph.D. degree you must:

- Have a cumulative GPA and a degree plan GPA of at least 3.0
- Satisfy the residency requirement (completion of 9 credit hours each in two consecutive long semesters)
- Pass the qualifying examination
- Complete all formal course work on the degree plan (excluding dissertation project research hours, and CMSS 6999)
- Have an approved dissertation proposal on file with the College of Science and Engineering Dean's Office (Academic Advisor).

You must be admitted to degree candidacy no later than 5 years after the first semester you enrolled in the program and at least 1 year before the date of the final dissertation defense/oral examination. CGS will not authorize a final dissertation defense/oral examination for any doctoral student who has not been admitted to candidacy.

After the completion of any required leveling courses and the CMSS Core Curriculum, all students must pass a Qualifying Examination to be admitted to degree candidacy. This examination may be scheduled when the student is within 6 semester credit hours of completing coursework (excluding dissertation project research hours and CMSS 6999) but must be completed after 12 and before 24 months of entering the program. Students entering with a BS should complete the exam before 36 months. *If leveling work is not needed, students should complete the Qualifying Examination by the end of their second full year.*

The Qualifying Examination involves written exams from each graduate advisory committee member, followed by an oral exam administered by the committee as a whole. In order to establish the emphasis area, the oral exam starts with a 15-minute oral presentation by the student describing the planned dissertation work. Questions at the oral exam can cover any aspect of the emphasis area, any aspect of the written exam, and any other topics committee members deem relevant.

The Qualifying Examination must be scheduled with proactive communication between the student and the committee. The written exams must be taken on no more than five consecutive days. Each participating committee member will prepare a written exam specifying time (at least 4 hours, but no more than 8 hours), conditions, and questions for the exam. Each of the four days is set aside for a different committee member. The written exam is returned to the committee member who prepared it, graded as Pass or Fail, signed, dated, and returned to the graduate committee chair. The chair determines if the written exam is passed and puts the exams in the student's file. The written exam must be passed prior to taking the oral exam. The oral exam should be scheduled no sooner than one week after, but no later than **one month** after the written exams are completed. Students are advised to consult with each committee member well in advance to determine how to prepare to take the exams and to schedule the exam.

Exam schedules must be arranged so that all members of your advisory committee can be present. One committee member (but not the chair) may participate from remote sites via telephone or other media. Any member of the graduate advisory committee who must be absent should arrange with a member of the CMSS Ph.D. faculty from his or her department to sit at the examination as a substitute and should notify CGS, in writing, of the proposed substitution at least one week prior to the examination. In an emergency, the absent faculty member may clear the substitution with CGS by telephone, and follow-up with a written confirmation. Only one substitution is allowed. No substitutions for the chair of the committee will be approved. If a chair cannot attend a scheduled examination, or if two (or more) members of an advisory committee must be absent, the examination must be rescheduled.

The graduate advisory committee chairman will report the results of the examination in Form B (http://gradcollege.tamucc.edu/contact_us/forms.html) to the College of Science and Engineering Dean's Office (Academic Advisor) and CGS signed by all committee members. This form must be submitted electronically to the CGS within 10 working days of the scheduled qualifying oral examination date and at least 14 weeks prior to the date of the final dissertation defense/oral examination. The committee may make recommendations for additional or remedial work as a condition for passing the exam. *If you successfully pass the Qualifying Examination, you will be advanced to candidacy at the beginning of the next semester. At that point you must complete all remaining requirements for the degree within 5 years.*

Individuals unable to pass the Qualifying Examination(s) will be dropped from the program. If you fail the Qualifying Examination, there is no obligation for a re-examination. At their discretion, the Graduate Advisory Committee may allow one re-examination when adequate time has passed to allow students to address inadequacies emerging from the first examination (not less than four months, but no more than six months). The advisory committee may request that the student retakes the entire exam or only those portions that were not passed, or the committee may recommend that the student complete a master's degree and be administratively withdrawn from the doctoral program.

CMSS Program Coursework Requirements

A. Admission from a Bachelor's Degree Option (90 semester credit hours)

Course	Title	Semester Hours
CMSS 6312	Communicating Science Seminar	3
	Core coursework*	12
	Elective coursework	15
	Research coursework**	51-57
CMSS 6999	Dissertation defense	3-9
	Total	90

B. Admission from a Master's Degree Option (60 semester credit hours)

Course	Title	Semester Hours
CMSS 6312	Communicating Science Seminar	3
	Core coursework*	12
	Elective coursework	6
	Research coursework**	30-36
CMSS 6999	Dissertation defense	3-9
	Total	60

*Four of the five CMSS core courses must be selected: CMSS 6303 Systems Analysis, CMSS 6307 Coastal Systems, CMSS 6305 Natural Systems Modeling, CMSS 6330 Spatial Systems Science, CMSS 6370 Coastal Management and Ocean Law.

**CMSS research courses: CMSS 6996 Research (prior to candidacy), CMSS 6998 Dissertation Research (after passing the candidacy exam).

CMSS Core Curriculum Course Descriptions

These courses are to be taken by all CMSS Ph.D. Program students. See "Degree Requirements" above for details on the core curriculum. Elective courses are described in the Graduate Catalog. Information on leveling courses may be found there or in the Undergraduate Catalog.

All students in residence admitted after June 1, 2019 are required to complete CMSS 6312 (Communicating Science Seminar). For students who have finished 1- or 2-hour of the legacy course CMSS 6102 (Seminar in Coastal and Marine System Science), either use those hours as electives or take Directed Independent Study to fulfill the remaining hours to meet the 3-hr seminar requirement.

CMSS 6312 3 sem. hr. (3:0) COMMUNICATING SCIENCE SEMINAR

Covers communication topics ranging from proposal writing to professional presentations with a minor emphasis on additional non-traditional communication formats. Must be taken to fulfill degree plan requirements by all Coastal and Marine System Science graduate students and is recommended in the first spring of the degree.

CMSS 6303 3 sem. hrs. (3:0) SYSTEMS ANALYSIS

Statistical analysis for data collected in several variables. Topics include sampling from multivariate normal distribution, multivariate analysis of variance, discriminant analysis, principle components, and factor

analysis. Prerequisite: Math 5315 Statistical Methods in Research I, undergraduate equivalent, or consent of instructor.

CMSS 6305 3 sem. hrs (3:0) NATURAL SYSTEMS MODELING

Parameterization of natural systems through the identification and characterization of input/output pathways, regulators, and sinks. Construction, testing, and use of various types of models: conceptual, ecosystem, and numeric. Prerequisites: MATH 5315 Statistical Methods in Research I and MATH 5316 Statistical Methods in Research II, or permission of instructor.

CMSS 6307 3 sem. hrs. (3:0) COASTAL AND MARINE SYSTEMS

Description of coastal and oceanic ecosystems to provide an overview of the fundamental concepts of the abiotic and biotic components, physical-chemical processes, and interactions with environmental and human systems.

CMSS 6330. 3 sem. hrs. (3:0) GEOSPATIAL ANALYSIS

Introduction and advanced usages of mapping datums, coordinate systems, and accuracy requirements for geographic information systems (GIS). Use of GIS tools to investigate statistical patterns and relationships among maps and geo-databases. Derivation of new maps and analysis based on spatial context, patterns, surface configuration, proximity, connectivity and flows. Prerequisites: MATH 5316 Statistical Methods in Research II; a working knowledge of ArcView and/or ArcGIS; or permission of instructor.

CMSS 6370. 3 sem. hrs. (3:0) COASTAL MANAGEMENT AND OCEAN LAW

Intensive study of the 1972 National Coastal Zone Management Act and subsequent coastal management programs. The Texas program, which is administered by the General Land Office, will be dealt with in depth as the central focus of the course. Statutory law relating to citizen, state, and federal rights and duties as they impact coastal and maritime law will be studied including applicable Texas real property law. Students will use case law studies relating to those rights and duties and Public Trust Doctrine cases to gain an integral part of understanding the responsibilities of governments and rights of citizens.

CMSS 6996 1-9 sem. hrs. RESEARCH

Independent research conducted under supervision of an advisor. Open to Coastal and Marine System Science students who have not yet passed the qualifying exam and with consent of their graduate advisor. The course is graded with an S or U, and may be repeated.

CMSS 6998 1-9 sem. hrs. DISSERTATION RESEARCH

Research related to Ph.D. dissertation project. Open only to degree candidates having passed the qualifying exam in Coastal and Marine System Science with consent of their graduate advisor. The course is graded with an S or U, and may be repeated.

CMSS 6999 3-9 sem. hrs. DISSERTATION DEFENSE

Open only to degree candidates in Coastal and Marine System Science with consent of their graduate advisor. Students should enroll in this course during the last semester of the CMSS PhD program. To successfully complete this course the student must pass the dissertation defense as well as have a final copy of the dissertation signed by the full graduate committee and approved for binding and distribution. A course section will be created for the student to enroll. A grade of Credit/No Credit will be assigned for the class with the possibility to assign the grade of IP or In Progress. If a grade of IP is assigned, the course must be repeated the following semester(s) until the course is passed.

CMSS Elective Course Descriptions

- CMSS 6323 3 sem. hrs. (3:0) **EXPERIMENTAL DESIGN**
 Fundamental concepts of mathematical ecology and the design and analysis of environmental experiments. Students Learn SAS programming and procedures to compute ecological metrics, data management techniques, exploratory analysis, power, sample size, checking assumptions, and analysis of variance models to compute a priori and post hoc hypothesis tests. Prerequisite: Math 5315 Statistical Methods in Research I, undergraduate equivalent, or consent of instructor.
- CMSS 6327 3 sem. hrs. (3:0) **PHYSICAL OCEANOGRAPHY**
 Succinct review of basic concepts of physical oceanography followed by general presentations and discussions in three selected areas: global ocean circulation, circulation along the Gulf of Mexico continental shelf, and ocean-atmosphere interaction and impacts on climate. A significant portion of the class is based on student guided reading assignments. Prerequisites: Direct interest in physical oceanography, background that includes introductory college physics and basic mathematical knowledge of calculus and simple differential equations, or approval of class instructor.
- CMSS 6333 3 sem. hrs. (3:0) **PALEO SYSTEMS**
 Study of the interrelationships of ancient organisms and their environment through interpretation of the fossil record, analog communities, and oceanographic data, such as carbon and oxygen isotopes. Theories and methods of reconstructing terrestrial, marine and freshwater biotic communities and environments. Review of classic paleoecological and paleoceanographic studies as well as current research. Prerequisites: BIOL 3428 Principles of Ecology, GEOL 1401 Historical Geology, and ESCI 3351 Oceanography, or GEOL 4316 Marine Geoscience
- CMSS 6334 3 sem. hrs. (3:0) **GEOLOGICAL OCEANOGRAPHY**
 Integrated examination of the geology and geochemistry of the marine environment. Evolution of ocean basins, continental margins and plate boundaries; geology of oceanic crust; controls on the types, origin, and distribution of marine sediments; and introduction to paleoceanography. Prerequisites: ESCI 3351 Oceanography, or GEOL 4316 Marine Geoscience, or permission of instructor.
- CMSS 6340 3 sem. hrs. (3:0) **OCEAN RESOURCES**
 Investigation of topics related to the discovery, distribution, and exploitation of marine resources of the ocean with a focus on the Gulf of Mexico, including the impact of resource exploitation on biological systems, and the development of marine policy.
- CMSS 6352 3 sem. hrs. (3:0) **ENVIRONMENTAL FORECASTING**
 Statistical techniques (classic and Bayesian) and new artificial intelligence based techniques, such as neural networks, for the analysis of environmental systems with large datasets. Prerequisite: CMSS 6305.
- CMSS 6357 3 sem. hrs. (3:0) **GLOBAL GEOCHEMICAL CYCLES AND CHANGE**
 Integrated examination of global-scale geochemical cycles operating within and between the four components of the Earth system (atmosphere, hydrosphere, biosphere, and solid Earth) and their role in the evolution of our planet. Prerequisites: CHEM 1311/1312 General Chemistry I and II and CHEM 3411 Organic Chemistry I.
- CMSS 6359 3 s. sem. hrs. (3:0) **MARINE ECOSYSTEM DYNAMICS**
 Investigation of the interactions between organisms and physical processes that regulate marine ecosystem functions.
- CMSS 6362 3 sem. hrs. (3:0) **GLOBAL CHANGE AND ITS IMPACT ON AQUATIC ECOSYSTEMS**

This course will introduce students to the effects of climatic and anthropogenic change on aquatic ecosystem structure and function. Includes readings from the current literature and development of a research proposal.

CMSS 6372 3 sem. hrs. (3:0) ENVIRONMENTAL SUSTAINABILITY ECONOMICS
This course will introduce the fundamental concepts of neoclassical microeconomics and ecological economics and apply them to environmental and sustainability issues.

CMSS 6401 4 sem. hrs. (3:3) MATHEMATICAL CONCEPTS FOR SYSTEM SCIENCE
Course focused on calculus, linear algebra, and differential equations used in coastal, marine, and environmental settings. The course is designed for entering doctoral students in the CMSS program as well as other interested science graduate students of the College of Science and Engineering. Course concepts are approached within the context of coastal and marine systems. Prerequisites: Introductory Statistics MATH 1342 or 1442 and Calculus I MATH 2413, or equivalents, or permission of instructor.

CMSS 6590 1-5 sem. hrs. ADVANCED TOPICS
An advanced study of an environmental systems topic. May be repeated with full credit in another area of environmental systems.

CMSS 6596 1-5 sem. hrs. DIRECTED INDEPENDENT STUDY
Study in areas of current interest. A total of six semester hours of Directed Independent Study may be counted towards the Ph.D. degree.

Research Prospectus/Proposal

The CMSS program strives to give doctoral students comprehensive knowledge in their professional fields as well as training in the methods of research. Students must conduct original research related to CMSS program goals. Many classes will require you to write research proposals and/or peer-reviewed publications as part of the graded class assignments. Original research and the publication of results are an obligatory part of any Ph.D. program.

The required dissertation involves an independent, detailed research project of importance to the international scientific community. The student's graduate advisory committee will guide the conception, design, construction, and execution of a systems-based inquiry and will review and approve the dissertation manuscript. Normally, an edited version of the dissertation will be published. Your graduate advisory committee may require such publication as part of the defense process.

The doctoral student, along with their graduate advisory committee, designs and plans the dissertation research project. This plan should be formalized in a "Prospectus," a brief two page document summarizing the motivation, goals and methods of the student's intended research project, as well as the expected benefits or outcomes. The Prospectus is a prologue to the formal Research Proposal and should be presented to the graduate advisory committee at an early meeting.

The Introduction to the Prospectus should briefly explain the area of interest and scholarly motivation for the research. One or a few clearly stated objectives should be listed. The Prospectus should conclude with an approach on how, where, and when the research will be accomplished. The Prospectus will be submitted, along with the degree plan, to the College of Science and Engineering Dean's Office (Academic Advisor), no later than the end of the **second long semester** (fall/spring).

Structure of Research Proposal

The proposal should be concise and provide a compelling rationale for the proposed research. The proposal must include a brief but complete synthesis of previous research on the problem, the significance or novelty of the research, and a detailed plan (experimental protocol) for carrying out the research and eventual analysis of the results. The proposal must also include a timeline with distinct milestones to guide the student and the advisory committee in assessing progress, as well as the budget. The proposal should be approved by the advisory committee prior to substantial research, and normally should be completed by the end of the second year of studies.

A dissertation proposal must include the following sections, in this order:

1. Title page. See example of a correctly spaced and formatted title page below.
2. Project Summary. Like an abstract, the Summary should be a synopsis of the proposed activity suitable for publication and not more than one page in length. It should describe the activities of the project. The Summary must clearly address, in separate statements, the two merit review criteria that are used by national science programs: 1) the intellectual merit of the proposed activity; and 2) the broader impacts resulting from the proposed activity.
3. Background & Relevance. This section summarizes the available scientific literature related to the problem or topic and explains why the proposed research is necessary.
4. Purpose, Objectives and Hypotheses. This section explicitly states the purpose of the research project (e.g., to determine what effect sea-level rise has on oyster reef extent and morphology). The purpose should reflect the question(s) that the research hopes to answer, not the method used to conduct the research. The objectives provide the steps in the research (not explicit methods) that will be used to answer the question (e.g. to gather data on oyster reef extent and morphology in areas of rising sea level). Hypotheses provide the explicit questions and predictions that will be tested in order to answer the larger research question (e.g., what are the factors affecting the extent and morphology of oyster reefs as sea level changes?).
5. Study site. If field research is planned, then a description of the study area including a map must be included. The study site should be briefly characterized in terms of physical and/or biological attributes.
6. Methods. This section describes in detail the methods of data collection and analysis you will use to meet each research objective or hypothesis. This is arguably the most important part of the proposal. Be sure and include how and when you will obtain any necessary permits.
7. Timeline. The timeline should be a table that includes distinct milestones showing the schedule for both research and academic work. Milestones should include completion of coursework, preliminary examinations, data-gathering for each objective or hypothesis, and analysis of each objective or hypothesis, writing of dissertation, submission to committee, and graduation.
8. Budget. The budget should reflect an accurate assessment of the expenses that will be incurred during the research project and by whom they will be paid. Include financial or other support obtained from all sources. Include each relevant item in the budget in the "Method" section of the proposal. Divide the budget into 4 subsections and present it in tabular form.
 - a. Equipment. Include cost figures for each piece of non-expendable equipment that you must purchase to support your research. Do not include purchase costs for equipment already available for use at TAMU-CC, but make sure that such equipment is operational and available for your use. Obtain permission before using University equipment and expendables.
 - b. Expendables. Estimate costs for all supplies, chemicals or other items to be exhausted during your research project. All items currently in stock must be replaced, so include replacement costs. Expendables include items such as traps, microscope slides, test tubes, glassware, aerial photography, and electronic data.
 - c. Operational Expenses. Include cost estimates for data collection including travel, boat rental and other expenses. The use of University vehicles and boats requires approval by the Field Trip Coordinator and the Department Chairperson, or the research institute or center director with oversight over that vehicle.
 - d. Document Preparation. Include cost estimates for all aspects of preparing the proposal and thesis, including the cost of having the final document bound. These costs are born by the student alone.
9. Budget Justification. This is a brief statement explaining why each element of the budget is necessary to accomplish the research.

10. Literature Cited. This section includes the complete citation for each article referenced in the proposal in the format of the format journal you have selected.
11. Biographical Sketch. The vitae must be 2 pages or less in length and should include five sections: 1) name, present address, contact information, and date; 2) Professional preparation including degrees listing most recent first; 3) Appointments to employment positions, listing most recent first; 4) Publications listing most recent first; and 5) Synergistic Activities, e.g. professional associations, presentations, professional activities, or any other relevant service.

After the proposal is completed, i.e., it is written well and formatted correctly, a draft copy must be submitted to the chair of the graduate advisory committee. After preliminary approval by the committee, the student should arrange to formally present the proposal in a public seminar. This presentation will clarify objectives, justification, methods, logic, or the proposed research and provide project orientation. The student and the graduate advisory committee must plan the timing, location, and format of the Dissertation Proposal presentation and the student must make a public announcement (Appendix 3) so that any interested persons may attend. All members of the committee should be present. The dissertation defense/final oral examination will not be permitted until this requirement is met.

Writing a successful proposal may require many drafts prior to approval by the entire advisory committee. Starting this process early is strongly advised. After the proposal meets the committee chair's approval, each of the remaining committee members should be provided a copy for review. After all requested changes have been made and the committee is satisfied that all aspects of the proposal are in order, the final Dissertation Research Proposal must be delivered to the committee chairperson for his/her signature and then to the rest of the committee and Program Coordinator for signatures.

Once all signatures are obtained, make copies to distribute to all members of the graduate advisory committee, and to the College of Science and Engineering Dean's Office (Academic Advisor). Students must take this process into account when planning their research schedule.

Format of Research Proposal

Make all narrative material of the dissertation proposal clearly understandable to the reader through careful, well-organized writing, meaningful figures and tables, and adequate utilization of references. Several publications available in the TAMU-CC library answer specific questions regarding the style of scientific writing, including the Council of Science Editors (CSE) Style Manual, the United States Government Printing Office Style Manual, and others. No corrections of letters or figures should be visible on the final copies.

Prepare the manuscript using styles in your word processor. Styles allow you to reformat the document quickly. The font should be 10 or 12 characters-per-inch (cpi) type size with a plain book-type font such as Helvetica or Times New Roman, not some unusual font. Follow your format journal in italicizing or underlining scientific nomenclature, foreign words, abbreviations and titles. When underlining a word, use a continuous underline; do not leave a space in the underline between letters. Separately underline each word of a multiword term, leaving a gap between adjacent words. In general, double-space your dissertation proposal and dissertation manuscript. The exceptions to this rule are for quotations exceeding six typed lines (inset and single-space these) and footnotes (which you should avoid). Figure and table captions should also be single-spaced. One line should separate a table caption from the table header and two lines should separate any embedded figure or table from text on the same page. Number all pages in the dissertation proposal or dissertation manuscript except the Title and Approval pages. Number the preliminary pages of the dissertation proposal with lower case Roman numerals. The Abstract page is the first numbered page; it follows the Title and Approval pages and is numbered iii. The style and format for all headings and subheadings in the dissertation proposal and dissertation manuscript should follow the standard practice of the format journal. Start each major heading (i.e., Methods, Study Area, Results, Discussion, etc.) on a new page. Subheadings should fall naturally within the text, but should never appear alone as the last line on a page ("orphan"). If a subheading is the last line of text, start it at the beginning of the next page.

Tables and figures, regardless of size, may appear on separate pages or within the text itself. Place them in the manuscript as close as possible to their first reference in the text (generally the page on or immediately following the first reference). Make sure that figures and tables are relevant and useful to the reader, and use as many as are necessary to fully report on the results of your research. If a figure or table is relevant, but represents ancillary information or “raw” data, include in an appendix rather than in the main text of the manuscript. If you place tables or figures in landscape format on a page, the top of the table or figure should be on the left side. Give each table or figure a number and caption, and transcribe these exactly on the List of Tables or List of Figures page; if a figure or table caption is more than one sentence, then put only the first sentence into the list. Make captions as concise as possible, but clearly describe the content of the figure or table. Follow exactly the format and style for figures and tables prescribed by the Format Journal.

Construct tables using the “Table” function found in all word processors. Titles for tables must appear on the same page as the table, and should be placed above the table. Make horizontal rules mimic the Format Journal. Vertical rules should not be used. If a table is more than one page long, there should be no closing line on the first page and the second page of the table should have a caption reading “Table #. Continued.” Multi-page tables should always begin on a new page; in other words, the first few lines of a multi-page table should not appear embedded within the text. Use the caption style of your word processing program for figures, which usually places the caption below the figure.

Footnotes should not appear within the regular text of the manuscript (they are permissible as explanatory notes in tables) except in rare circumstances. If they are absolutely necessary and the Format Journal permits their use, follow the journal format exactly. Cite all references to the literature in the text using the name-date system which is the method most widely used in the sciences, e.g., Stilt (2000) or (Heron, 1995; Seagull 1996; Seagull and Plover, 1996). Choose a Format Journal that uses this system. Do not cite sources by number, i.e. (1). If you use or adapt a figure from another author, cite the source in the figure caption. Generally, follow the format in the Format Journal when you develop the Literature Cited section. Use the same system of abbreviations, punctuation, underlining, and italics as the Format Journal. There is one exception (mainly applies to chemistry Format Journals): if the Literature Cited section of your Format Journal does not list the title of an article, make sure that you include it to enhance the usefulness of your citations to readers.

Dissertation Proposal Seminar

Once the advisory committee has approved the research proposal and a date for the Dissertation Proposal Seminar has been set, the student must submit Form D: Doctoral Dissertation Proposal Hearing Request Form (available at http://gradcollege.tamucc.edu/contact_us/forms.html). This form has to be submitted with original signatures to the College of Graduate Studies no later than **two weeks** prior to the hearing (seminar) and, at minimum, two semesters prior to the student’s anticipated graduation. A Research Proposal Seminar Announcement (see example below) should be sent to the appropriate listservs no later than **one week** before the seminar date.

Format of the Research Proposal Title Page

TITLE SHOULD APPEAR IN ALL CAPITALS AND BE CENTERED

a research proposal prepared by YOU A. STUDENT
MONTH, YEAR

for
The Graduate Committee
Coastal and Marine System Science Program
Department of Physical and Environmental Sciences
Texas A&M University-Corpus Christi
Corpus Christi, Texas

Approved:

Dr. A. Palmtree, Chairperson

Dr. B. Waves, Member

Dr. C. Gull, Member

Dr. D. Sand, Member

Format of the Research Proposal Budget:

Table 1. Proposed budget for dissertation research.

Budget Item	Costs (\$)			
	TAMUCC	Personal	Other	Total
Salary Monthly (15 months)			*15567.75	15567.75
Equipment Desktop Laptop Microscope	on hand/no cost on hand/no cost	on hand/no cost		
Supplies Petri dishes Microslides Chemicals			60 40 500	60 40 500
Travel Boat/Vehicle (4 trips) Food Hotel	120.00		400.00 **100.00 **200.00	520.00 100.00 200.00
Preparation of Documents Thesis Expenses Publication and reprints		200.00		200.00 300.00
Total	420.00	740.00	22567.75	24327.75

* Grants to Dr. A. Palmtree.

** Travel award from Elite Program

Also include a section entitled “Budget Justification” that describes in detail each line in the budget.

Format of the Research Proposal Seminar Announcement

(Note: Time, date, and room are examples only)

RESEARCH PROPOSAL SEMINAR NOTICE
COASTAL AND MARINE SYSTEM SCIENCE PROGRAM
DEPARTMENT OF PHYSICAL AND ENVIRONMENTAL SCIENCES
TEXAS A&M UNIVERSITY-CORPUS CHRISTI

SUBJECT: Official Title of Your Research Proposal

SPEAKER: You A. Student

DATE: Tuesday, March 15, 2005

GRADUATE ADVISOR: Major Professor(s)

TIME: 3:00 p.m.

PLACE: Building Name, Room Number

ABSTRACT

A 50–200-word abstract of your research proposal should appear here.

[NOTE: Students should post this notice electronically to faculty members and graduate students involved in the CMSS and other graduate programs via the cmss-list (cmss-list@listserv.tamucc.edu) and Scitech-list (scitech-gradstudents@listserv.tamucc.edu) listservs. Ensure you email a copy of the announcement to the College of Science and Engineering Dean's Office (Academic Advisor martha.simcik@tamucc.edu) and CMSS Administrative Assistant.]

SECTION IV. DISSERTATION GUIDELINES

Your dissertation must conform to CMSS program and College of Graduate Studies institutional standards. The following guidelines will help ensure your dissertation is completed and submitted appropriately. Consult the CGS Doctoral Student Handbook for specific formatting and submission requirements.

The CMSS Dissertation

Students will complete a study of the accepted standards of scholarly ethics and scientific integrity. The Ph.D. dissertation is a book-length, formal document that argues in defense of a particular thesis. Two important adjectives used to describe the dissertation are “original” and “substantial”. The research performed to support a thesis must be both, and the dissertation must show it to be so. In particular, a dissertation highlights original contributions. Once data collection and analysis are completed, the research should be organized into a meaningful format and explained in a written narrative. The written narrative follows the style and format standard to scientific papers.

Dissertation research will not always go according to plans. Students must be prepared to adopt new methods of data collection or analysis if necessary and in consultation with the graduate advisory committee. Students should plan to take advantage of any opportunities to pursue side projects, as time and resources permit, to enrich understanding of the research topic.

The College of Graduate Studies Doctoral Student Handbook outlines the guidelines and requirements for formatting the dissertation. Templates for the title page, copyright page, and committee member page are on the Graduate School Forms webpage: http://gradcollege.tamucc.edu/contact_us/forms.html

CMSS students may choose between two models for organizing the dissertation content: 1) the traditional model, and 2) the journal manuscript model. The “traditional” model presents the dissertation research content in a single, cohesive manuscript. Information is presented sequentially and no section stands alone as a publishable document. The “journal manuscript” model presents dissertation research as several discrete articles, each appropriate for submission to a journal, bound together as the dissertation document. In the journal manuscript model, information may be repeated as necessary between articles so that each can stand alone as an academic work. The journal manuscript format must also include an overarching introduction, a summary/conclusions section that brings the entirety of the research into context, and a literature cited section that encompasses the entirety of the manuscript. Regardless of whether the traditional or journal manuscript model is chosen, the entire document must be submitted in one format style. In other words, in the journal manuscript model, even though it is likely that articles will be submitted to several different journals, the entire dissertation must be presented in the style of only one journal. Headings and subheadings, punctuation, reference citations, and other details should follow the journal format exactly with few exceptions.

When the draft is ready, submit it to the chair of your advisory committee. Submit the draft as if it were the final – make it as perfect as possible with respect to writing and grammar, punctuation and spelling, journal formatting requirements, and with all figures and tables in final format. Be prepared to go through the revision process numerous times before the committee chair is comfortable letting the rest of the committee review the document.

When the committee chair is ready for the document to be submitted to the rest of the committee, enough copies should be reproduced so that each member can have a copy. Ideally, committee members should return the corrected dissertation within two weeks of receipt. Students should check with committee members to

ensure they have the time to review the document. A final draft delivered to the advisory committee one month prior to the dissertation seminar, would allow two weeks before the scheduled final defense/oral examination date for the student to make recommended changes. After the committee has returned the corrected draft, students should review suggested changes with their advisory committee chair, and make the suggested changes, unless the chair directs otherwise. (Note: A request to schedule the defense/final examination must be submitted by the published deadline (http://gradcollege.tamucc.edu/current_students/doctoral_dates.html) on the appropriate form found at http://gradcollege.tamucc.edu/contact_us/forms.html (Form E).

Students should be prepared to go through the revision process more than once before the committee members are comfortable signing off on the final document.

Students should be sure to give their advisory committee chair enough time to review the manuscript and leave themselves enough time to make changes. In other words, students should make sure that they have left ample time prior to deadlines for all members to have adequate time to review the document and for all the changes suggested by the committee to be made. **The dissertation should be essentially complete before the dissertation seminar and final defense/oral examinations.** Any member of the graduate committee or the Dean of the College of Graduate Studies can reject the dissertation at any stage of the submission and approval process. Rejection of the manuscript can occur for many reasons including (but not limited to):

1. The manuscript does not conform to the required format
2. The manuscript is messy, poorly reproduced, or contains grammatical or spelling errors
3. The manuscript describes scientific data inconsistent with the research project approved in the dissertation proposal
4. The paper contains errors, inappropriate analysis of data, erroneous conclusions, or other scientific inaccuracies
5. The paper contains plagiarized work.

After a student has successfully presented the dissertation seminar, completed the defense/oral examination, and completed all changes to the dissertation manuscript that have been requested by the committee, the Dissertation Defense/Final Examination (Form F) report will be electronically routed for signatures and submitted to CGS (http://gradcollege.tamucc.edu/contact_us/forms.html).

The CMSS faculty expects students to submit dissertation research (in proper format) to scholarly journal(s) for publication. If the advisory committee chair or other person(s) including other faculty or scientists from funding agencies, etc., made a significant contribution to the research or writing of the manuscript to be submitted, then the person should be listed as a co-author on the published article. The student and the advisory committee Chair should agree on the order of authorship. Seriously consider co-author status if a person:

1. Supported the work through a grant that was authored by them
2. Did a significant portion of field or laboratory work
3. Contributed materially and intellectually to the research
4. Contributed to the writing

In all cases, acknowledge the chair of the advisory committee, other members of the graduate advisory committee, other people that offered assistance and TAMU-CC in the publication. It is courteous to acknowledge persons, who assisted in any major way including moral support, lab/field assistance, and of course, any source of financial assistance.

Dissertation Seminar & Final Defense/Oral Examination

The comprehensive exam must be passed and courses in the plan of study completed with a GPA of 3.0 or greater before the dissertation defense/final examination will be scheduled. Once the dissertation is completed and approved by the advisory committee, the results of the research must be presented orally and publicly. The dissertation defense/final examination must cover, but is not limited to, the dissertation. The defense must be scheduled for a minimum of **six weeks** prior to graduation. The seminar should be scheduled and completed prior to the final defense/oral examination. The final defense/oral examination usually takes place immediately following the seminar, but it can be scheduled on a separate day if necessary to accommodate the schedules of committee members.

Subsequent to the dissertation defense/final examination, and **only** after all changes to the dissertation manuscript requested by the committee have been made, the student will submit an electronic copy of the dissertation, no later than **four weeks** prior to graduation, to ProQuest/UMI as a single PDF file (see CGS Doctoral Student Handbook for detailed instructions).

Students not completing all requirements of the Final Dissertation Defense by the end of the semester, such as turning in an approved final draft after published deadlines, will receive a grade of In Progress (IP). The student must register for the same course in the subsequent semester, paying all the appropriate tuition and fees, to receive a final grade for the course.

After your **Dissertation Defense & Final Examination Report** (Form F) is submitted and all requested changes have been made, you can submit your dissertation electronically.

Dissertation Seminar

The Dissertation Seminar is a formal oral and visually supported presentation of the results of the research or of some pertinent aspect of the research. Although it will generally be longer than a paper presented at a scientific meeting, it should be similar in format and design. The defense should review parts of the dissertation including the background and relevance of the research, the methods, the results, and the conclusions. Professional quality visual aids must complement the oral presentation. As a general rule, the oral presentation should last about 45 minutes and at least 15 additional minutes should be allowed to answer questions at the end.

Students must prepare and submit a formal announcement of the dissertation seminar to their committee chairperson for approval at least **two weeks** prior to the seminar date. It is the student's responsibility to contact each committee member and arrange a time and place for the event. All committee members must attend the seminar. The student is responsible for posting the seminar notice as an e-mail to all appropriate listservs at least one week prior to the seminar date. Email a copy of the seminar notice to the College of Science and Engineering Dean's Office (Academic Advisor) and CMSS Administrative Assistant.

Final Defense/Oral Examination

The purpose of the final defense and oral examination is to allow advisory committee members to gauge the scope of the student's understanding of the principles and significance of the discipline of the dissertation research. It complements the qualifying examination, which gauged overall knowledge in the field, by allowing a more detailed assessment of specific knowledge as it applies to the dissertation research. The exact format and scope will vary among students depending on both their advisory committee and the nature of their research.

The graduate advisory committee will decide whether a student has passed the final defense and oral examination. Regardless of whether the student passes or fails, the committee will discuss with the student their assessment of the student's performance. If a student fails, the exam may be retaken only once, and only after at least four months have passed.

Format of the Dissertation Seminar Notice

(Note: Time, date and room are examples only)

DISSERTATION SEMINAR NOTICE
COASTAL AND MARINE SYSTEM SCIENCE PROGRAM
DEPARTMENT OF PHYSICAL AND ENVIRONMENTAL SCIENCES
TEXAS A&M UNIVERSITY-CORPUS CHRISTI

SUBJECT: Official Title of Your Dissertation

SPEAKER: You A. Student

DATE: [Insert Day, month date, year]

GRADUATE ADVISOR: Major Professor(s)

TIME: 3:00 p.m.

PLACE: Building Name, Room Number

ABSTRACT

The abstract of your dissertation or graduate project should appear here (shortened version if necessary). An abstract of 50-200 words length is recommended for inclusion in the Graduate Seminar Notice.

[NOTE: Students should post this notice electronically to faculty members and graduate students involved in the CMSS and other graduate programs via the cmss-list, scitech-list, escifac-list, and escistu-list listservs. Ensure you email a copy of the announcement to the College of Science and Engineering Dean's Office (Academic Advisor) and CMSS Administrative Assistant.]

SECTION V. APPENDICES

Appendix 1: CMSS Program Application Checklist

- Complete the Texas Common Application and submit the application fee. Online applications are preferred.
- Submit an essay of not more than 1000 words describing educational backgrounds, career interests, goals and challenges. Include any relevant supplemental materials such as publications or resumes of relevant experiences, and contacts made with professors in the CMSS program.
- Request 3 letters of evaluation/recommendation.
 - You should request evaluations/recommendations from individuals who are familiar with your academic achievement and potential and provide them with the required evaluation forms.
 - If you have been out of school for a number of years and are unable to contact former professors, you may request evaluations/recommendations from people such as employers who are familiar with you and who can comment on your potential to succeed in the program.
 - Completed evaluation/recommendations should be signed over the flap of the envelope by the person completing the form/letter and be mailed directly to CGS.
- Request official transcripts documenting all senior-level post-secondary institutions you attended. Transcripts must be sent directly to CGS. An official statement of the award of the degree or diploma is required for each degree completed.
- Request that the required test scores (GRE and/or TOEFL) be sent directly from the Educational Testing Service to CGS (Code 6849)
 - GRE and TOEFL scores must be not more than 5 and 2 years old, respectively
 - International graduate students seeking assistantships must also obtain “English Proficiency Certification”
- Apply separately to College of S&E for financial assistance.
- Priority deadlines are:

<u>Student Type</u>	<u>Fall Semester</u>	<u>Spring Semester</u>	<u>Summer Semester</u>
Domestic Students	December 1	August 1	December 1
International Students	December 1	June 1	December 1

Appendix 2: CMSS Ph.D. Program First-Year Checklist

- Meet with CMSS Program Coordinator prior to enrolling for first semester classes
- Form Graduate Advisory Committee (GAC) by end of first semester
 - Speak with individual faculty about research interests
 - Committee must include at least 3 CMSS Ph.D. Faculty
 - Decide on a primary advisor (Committee Chair)
 - Form and meet your committee *no later than* the end of second semester
- Prepare the Tentative Degree Plan with your GAC no later than the end of second semester
 - Leveling coursework
 - Elective coursework
 - Dissertation topic
 - Formulate Research Prospectus
- College of Graduate Studies (CGS) appoints a Graduate Faculty Representative (GFR)
- Meet GAC at least annually to update progress

Each time an item is checked off this list, send an email with the date completed to the CMSS Administrative Assistant.

Appendix 3: CMSS Ph.D. Program Degree Requirements Checklist

I. Coursework

- Leveling coursework (if necessary) as specified by GAC
- Tentative Degree Plan and Research Prospectus approved by CGS and copy to the College of Science and Engineering Dean's Office (Academic Advisor) by end of second semester, but no later than **18 months** after beginning the doctoral program
 - Minimum 90 hrs beyond bachelor's degree, or 60 hrs beyond master's degree
 - 15 hrs Core Curriculum, including 3 hrs CMSS 6312 Seminar
 - 3.0 minimum GPA
 - Research Prospectus (2-5 pages) developed with GAC
 - Final Degree Plan for signature approval to Dept. Chair, College Dean, and CGS no later than **the census day (12th class day)** of the semester prior to the graduating term.
 - Deadline to apply for graduation is the last day of classes in the semester prior to graduation.

II. Research Proposal

- Independent, detailed, original, systems-based inquiry
- Research Prospectus presented to committee and submitted to CGS by end of the second semester (2-5 pages)
- Dissertation Research Proposal
 - Modified from Research Prospectus with GAC input
 - Submit draft to Committee Chair for approval
 - Present, after Chair approval and public announcement, a proposal seminar
 - Present to GAC for approval signatures
 - Signed version submitted to College Dean; Copies to College Advisor, CMSS Administrative Assistant, and GAC members
 - Should be approved by end of second year of graduate study

III. Admission To Candidacy [Major Decision Point]

- Residence requirement: At least 9 credit hours in 2 consecutive semesters
- Completed *formal* coursework on Tentative Degree Plan
 - Excluding research hours and CMSS 6312
 - 3.0 minimum GPA
- Dissertation Proposal on file with College
- Qualifying Examinations
 - Written examination from each GAC member
 - Oral examination with GAC
 - Schedule when within 6 hrs of completion of *formal* coursework: Notify CGS
 - Must be registered for credit at time of exams
 - Speak with each GAC member to prepare
 - Must pass within 12 months of coursework completion
 - Notify CGS of outcome

IV. Teaching Experience

- A relevant teaching experience of at least 3 credit hours as instructor of record is required
 - Consult with the CMSS Program Coordinator to make arrangements for a teaching assignment

V. Dissertation

- Data collection and analysis completed
- Choose format and prepare according to guidelines
 - Multiple iterations of editing
 - With Chair approval, provide copies to GAC *at least* 1 month prior to final defense
 - Committee returns corrected versions within 2 weeks
 - Review and incorporate suggested changes along with Chair
 - Additional review by GAC may be required
- Submit final corrected version of Dissertation to CGS following successful defense
 - See CGS Doctoral Student Handbook for instructions
- Note: Completion of the CMSS Ph.D. is driven by the dissertation as a product of research, rather than by external factors or commitments

VI. Dissertation Defense

- Must have been admitted to Degree Candidacy at least 1 year prior to defense
- Must be registered for credit for semester in which the final defense takes place
- Apply for graduation in College of Science and Engineering Dean's Office (Academic Advisor) by published deadline. The student must complete all requirements for the degree at least three weeks prior to the end of the semester in which the degree will be conferred.
- Contact GAC to schedule Dissertation Seminar and Final Defense
 - Must be held at least six weeks prior to graduation
- Submit formal seminar announcement to committee chair at least 2 weeks in advance
- Schedule rooms for seminar and defense
- Post announcement to relevant Listservs at least 1 week in advance
- Email copy to College of Science and Engineering Dean's Office (Academic Advisor)
- Present Dissertation Seminar and stand for the Final Defense
- Complete all requirements for the degree at least three weeks prior to the end of the semester in which the degree will be conferred.

Notes:

Tracking progress toward the degree is very important and the responsibility of the CMSS Program Coordinator. Each time the student has accomplished a milestone on this list, the student should send an email with the date completed to the CMSS Administrative Assistant.

Appendix 4: CMSS Ph.D. Program Timeline

Milestone	Entering with BS or MS		
	Deadline	Grace	Penalty
Committee formed	1 st sem	2 nd sem	*Registration Bar
Degree plan	1 st sem	2 nd sem	Registration Bar
GFR added	2 nd sem		
Prospectus	2 nd sem	3 rd sem	Registration Bar
Proposal/Seminar	3 rd sem	4 th sem	Registration Bar
Core courses	2 nd sem	4 th sem	Registration Bar
Candidacy Exam	4 th sem	6 th sem	Registration Bar
Final Dissertation	10 years (20 sem)	0	Courses expire after 10 years, must be retaken or revalidated

(NB: sem = fall, spring, and 10-week summer semesters)

*Deficiency must be made up before registering for next semester, and students must be registered full-time to be eligible for any graduate assistantships or scholarships.

Appendix 5: Course of Study

Credit hour progress through time. Semester, Year, Months, Credit Hours Equivalency Table. (not included in Handbook)

Semester	Semester Year	End Months	Credit Hours	
			Semester	Cumulative
1	Fall 1	4.5	9*	9
2	Spring 1	9	9	18
	Summer 1	12	3	21
3	Fall 2	16.5	9*	30
4	Spring 2	21	9	39
	Summer 2	24	3	42
5	Fall 3	28.5	9*	51
6	Spring 3	33	9	60
	Summer 3	36	3	63
7	Fall 4	40.5	9	72
8	Spring 4	45	9	81
	Summer 4	48	3	84
9	Fall 5	52.5	9	93
10	Spring 5	57	9	102
	Summer 5	60	3	105
↓	↓	↓	↓	↓
20	Summer 10	120		

*Assumes student takes only 9 hours in first 3 fall semesters, but many students take 10 hours because they take three 3-hr classes + one 1-hr seminar course.