

**BIOLOGY**  
**MASTER'S STUDENT HANDBOOK**  
**2020-2021**



**TEXAS A&M UNIVERSITY**  
**CORPUS CHRISTI**

**COLLEGE OF SCIENCE AND ENGINEERING**

**6300 Ocean Drive**  
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**Websites**

**BIOL: <http://www.biol.tamucc.edu/ms/> and**  
**<http://gradschool.tamucc.edu/degrees/science/biology.html>**

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## SECTION I. BIOLOGY PROGRAM

### **Introduction**

This handbook provides guidance to students applying for and enrolled in the Biology (BIOL) master's degree (M.S.) 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 graduate committee, choosing whether to pursue the thesis or professional (non-thesis) course of study, and the final oral examination. This handbook should be used in conjunction with the [Graduate Catalog](#) (be sure to select correct catalog in menu). The BIOL Handbook lists requirements specific to the BIOL program that are above and beyond what is described in the catalog. Additional graduate school requirements and specific rules and procedures can be found in the [College of Graduate Studies \(CGS\) Master's Student Handbook](#) and the [TAMU-CC University Handbook](#). There is also a Style Guide (add url here) that contains detailed instructions for preparing the thesis prospectus, thesis proposal, thesis or professional paper, and master's defense seminar.

### **The M.S. in Biology**

The Master of Science in Biology is designed for graduate students who wish to become knowledgeable leaders and professionals in fields of study that range from organismal biology and ecology to the biomedical sciences. The M.S. in Biology is a very flexible program that allows the course of study to be tailored to the student's interests and career goals.

The **goal** of the M.S. in Biology is:

- To provide graduates with a broad understanding of the biological sciences as well as education, training, and skills in a specific discipline.
- To foster creative independence and critical thinking in graduates so they are competent to practice in and contribute to a variety of professions and fields of scholarship.

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

- Gain expertise in specific biological field including knowledge of the relevant scientific literature related to their thesis or professional paper.
- Understand the scientific method and be able to design and conduct experiments.
- Be able to accurately describe (orally and in writing) biological research.
  
- Demonstrate the ability to conduct a thorough and complete survey of the relevant scientific literature pertaining to their approved topic of study.
- Demonstrate the ability to collect, organize and interpret data and produce a thesis or professional paper from an experiment, study, or project.
- Develop technical writing and communication skills that will benefit them in their professional careers.

## **The BIOL Student**

Prospective students who wish to pursue a BIOL M.S. degree should have strong life sciences backgrounds. Students accepted into the degree program will generally have undergraduate degrees in an area of the biological sciences (e.g., Biology, Ecology, Wildlife and Fisheries Sciences) with coursework that includes chemistry (e.g., general chemistry, organic chemistry, biochemistry). The BIOL faculty welcome 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 development of specific expertise. Graduate students must assume greater responsibility and exercise more individual initiative than was necessary as an undergraduate. The graduate faculty emphasize productive research, employ seminar methods more frequently, and anticipate higher levels of class participation. To be successful in the master's 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.

### **Biology Administrative Staff**

**Department Chair:** Cherie McCullough, Ph.D.

**BIOL Program Coordinator:** J. Derek Hogan, Ph.D.

**Administrative Staff:** Ms. Ronnie Emanuel (Academic Advisor), Mr. Ken Brown (LSCI), Ms. Sue Burgess (LSCI)

### **Get Connected**

Most official college and program information for students is distributed on listservs. A full list of all university listservs may be found at [www.sci.tamucc.edu/students/listserves.html](http://www.sci.tamucc.edu/students/listserves.html). It is recommended that you subscribe to the graduate science and engineering student listserv (SciTech-GradStudents, [scitech-gradstudents@listserv.tamucc.edu](mailto:scitech-gradstudents@listserv.tamucc.edu)) (Historical fact: It is called SciTech as the college used to be Science and Technology.) Other listservs that may be of interest include: MSGSO - Marine Science Graduate Student Organization ([msgso@listserv.tamucc.edu](mailto:msgso@listserv.tamucc.edu)) and Opportunities (scholarship/internship, [opportunities-list@listserv.tamucc.edu](mailto:opportunities-list@listserv.tamucc.edu)).

## **SECTION II. ADMISSION INFORMATION**

### **BIOL Program Admissions Criteria**

Students seeking admission to a graduate 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](mailto:gradweb@tamucc.edu)

Phone: 361.825.2177

Fax: 361.825.2775

*This handbook is intended to be read in conjunction with the Graduate Catalog:*  
<http://catalog.tamucc.edu/index.php> and the College of Graduate Studies Master's Student Handbook  
<http://gradschool.tamucc.edu/>

## **Application Submission**

Specific information on University criteria, application procedures, fees, and additional requirements for international applications are found in the [TAMUCC Graduate Catalog](#) and at the [College of Graduate Studies Website](#). To apply, complete the online Graduate Studies Application Form found at: [http://gradschool.tamucc.edu/new\\_students/application\\_process.html](http://gradschool.tamucc.edu/new_students/application_process.html)

## **Program Requirements & Information**

Below is a summary of the supporting documents required by the BIOL 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 BIOL programs, and a list of faculty members contacted.
- Three letters of evaluation from people familiar with your scholarly potential.
- Transcripts of all previous undergraduate and graduate work (including transcript evaluations of all work done at foreign institutions).<sup>1</sup>
- Graduate Record Examination (GRE) scores that are not more than five (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 at the College of Graduate Studies [website](#). The BIOL program requires TOEFL or IELTS scores ([click here for more information](#)) for students from countries where English is not the native language. These scores must not be more than two (2) years old from the date the application was received AND must meet university criteria.

It is the student's responsibility to make sure that the application is complete and received by the deadline to assure full consideration. Acceptance into the BIOL M.S. 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.

Students whose GPA for the last 60 hours of undergraduate coursework is less than 3.0 (4.0 scale), whose GRE scores are below the 50<sup>th</sup> percentile, or both are typically not competitive. Even if accepted, students in this situation are not eligible for support (i.e., cannot be supported through teaching or research assistantships), including out-of-state tuition waiver. Students whose GPA for the last 60 hours of undergraduate coursework is 2.5 or less (4.0 scale) will not even be considered for admission.

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

**Dr. J. Derek Hogan**  
BIOL Program Coordinator  
[james.hogan@tamucc.edu](mailto:james.hogan@tamucc.edu)  
361.825.5883

**Mr. Ken Brown**  
Sr. Administrative Assistant  
[Kenneth.Brown@tamucc.edu](mailto:Kenneth.Brown@tamucc.edu)  
361.825.3907

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<sup>1</sup> 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. Applicants must submit external transcript evaluations along with copies of the official transcripts. An applicant's file will not be considered complete without the submission of external transcript evaluations.

## Program Deadlines

The BIOL and FAMA programs have two deadlines: 1) priority date deadlines and 2) late or last decision date deadlines. All students should strive to meet the priority deadline because it is used to make decisions regarding assignment of assistantships. All applications received after the priority date deadline are considered “late” applications. Deadlines are typically earlier for international students because of the time required to process visa applications for international students. For the most up-to-date application deadlines visit <http://gradcollege.tamucc.edu/degrees/science/biology.html>.

<b>MS BIOL PROGRAM APPLICATION DEADLINES</b>			
<b>Admission Semester</b>			
<b><i>Domestic Students</i></b>	<b>Fall</b>	<b>Spring</b>	<b>Summer I</b>
Priority deadline to receive complete applications.	February 1	August 1	February 1
Decision date for <b>Priority</b> deadline	March 1	September 1	March 1
Last date for receipt of complete applications.	August 1	December 1	May 1
Decision date for late applications.	August 15	January 5	May 15
<b><i>International Students</i></b>	<b>Fall</b>	<b>Spring</b>	<b>Summer I</b>
Priority deadline to receive complete applications.	February 1	June 1	February 1
Decision date for <b>Priority</b> deadline	March 1	July 1	March 1
Last date for receipt of complete applications.	April 15	September 15	February 1
Decision date for late applications.	May 15	October 15	March 1

The acceptance process has two steps: 1) review and vote for acceptance by the designated MS BIOL program faculty, and 2) final and official acceptance by the College of Graduate Studies. The applicant will be notified of acceptance or rejection only by the College of Graduate Studies.

## Assistantships

Students seeking full consideration for fellowships or assistantships (teaching or research) should have a completed application file submitted by the Priority Deadline (e.g., February 1 for Fall admission). However, applicants must apply separately for scholarships, assistantships, and fellowships at the College of Science & Engineering (<http://www.sci.tamucc.edu/students/gradfunding.html>). Remuneration for M.S. assistantships, which is currently set at \$1200/month for 9-month half-time (50%, 20 hours/week) appointments, are consistent regardless of whether a student is a teaching or research assistant. **Students are only eligible to work half-time.**

After the priority deadline, if funding is available, awards will be made on a first come, first served basis. Students who have received offers for fellowships or assistantships **must notify** their respective coordinator (BIOL – Derek Hogan) and the College of Science and Engineering TA Coordinator (named in offer letter) of their acceptance by April 15 for Fall admission and November 15 for Spring admission (if assistantships are available). 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 and scholarships, refer to the CGS Graduate Assistantship Handbook at

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<http://catalog.tamucc.edu/index.php> and the College of Graduate Studies Master’s Student Handbook  
<http://gradschool.tamucc.edu/>

<http://gradschool.tamucc.edu/funding/assistantships.html> and <http://gradschool.tamucc.edu/funding/index.html>, respectively.

**Teaching Assistantships:** 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 at <http://gradschool.tamucc.edu/funding/assistantships.html>.

**Research Assistantships:** A limited number of research assistantships are available through research institutes or centers and individual faculty members. Consult with institute or center directors and individual faculty members to identify these opportunities.

**Timelines:** Sometimes students need to make decisions on financial assistance before all information is in. For example, a student may need to accept or reject a financial aid package (loans) before he or she knows whether he or she is approved for an out-of-state tuition waiver. If you have a financial aid situation, you should discuss the situation with your faculty advisor and the Financial Aid Office before making a decision. If your studies start being extended far beyond “normal” time for completion, a situation of “excessive” hours may occur that can lead to financial aid issues. This situation rarely occurs, but if it does, see a representative at the Financial Aid Office to check what is the process for continuing.

## **Graduate Orientation**

The College of Graduate Studies hosts a general Graduate Student Orientation ([Orientation Schedule](#)) every Fall and Spring semester. The BIOL program schedules a Program Requirements Orientation separately, usually during the first week of classes to ensure that all new graduate students in the program are able to attend. **Graduate students with teaching assistantships must attend training prior to the start of the fall and spring semester.**

## **SECTION III. ACADEMIC PROGRESSION**

### **Enrollment Status**

All MS BIOL students with teaching or research assistantships **MUST** be enrolled full-time, which is 9 hours during the fall and spring semesters and 3 hours during the combined summer session. If a student is unsupported and chooses not to enroll for some reason, they can only remain unenrolled for two semesters after which they will be dropped from the program and will have to reapply to complete their degree. The maximum time allowed to complete the M.S. degree is seven (7) years. After this time coursework will begin to expire. Students typically, and should plan to, complete their degree within 2-3 years.

All BIOL students must follow University rules governing graduate studies including, but not limited to: residency, recency of credit, leave, 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 [TAMUCC Graduate Catalog](#).

## **Choosing a Degree Track**

The BIOL MS program gives students a choice between the thesis track and the professional (non-thesis) track. The **thesis track** can be thought of as a *research-intensive degree* while the **professional track** is *coursework-intensive with a research component*. Students should have discussed which track they will pursue with their graduate advisor before being accepted into the program.

## **Fulfilling BIOL Program Degree Requirements**

Regardless of track (thesis vs professional), all BIOL master's students must:

- form a committee appropriate to program and track
- have an approved degree plan
- develop a prospectus outlining the goals and objectives of their research project or internship
- pass a final oral examination.

In addition, thesis-track students must:

- develop a research proposal
- conduct research
- write thesis
- give a public seminar
- defend thesis

**Important – It is the student's responsibility to ensure all forms, paperwork, and other degree requirements are completed in a timely manner. Continuing stipend support is contingent upon completing these milestones.**

## **The Graduate Advisory Committee (GAC)**

After being accepted into the BIOL program and enrolling, the most important first step for is forming the graduate advisory committee (GAC). All first semester BIOL students should work closely with their primary supervisor, the faculty member who agreed to take the student into their lab, with class registration and other program issues (the program coordinator may also be consulted). Ideally, students should select a GAC, with the aid of their primary supervisor(s), by the end of their first semester. The committee should be formed no later than the end of a student's second semester in the program. The GAC will help the student develop their overall degree program, including determining a research topic, formulating a research plan, selecting coursework, approving the degree plan, reviewing and approving the final research product (thesis or professional paper), and administering any examinations. Beyond these functions, the chair and advisory committee members should serve as valuable mentors.

Composition and size of the GAC 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 is usually based on some definable criteria, such as work overload or incompatible research interests.

The graduate advisory committee consists of at least three (3) members. Two members must be of the Life Sciences Department graduate faculty, including the committee chair. Additional members from outside the Life Sciences Department graduate faculty or the university may be approved by Life Sciences Department and 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 Life Sciences Graduate faculty on the committee. In all cases involving the appointment of a non-BIOL program serving faculty member, a graduate faculty status request accompanied by a curriculum vitae and a rationale for the appointment must be filed with the Life Sciences Department and CGS and provided to the respective Program Coordinator.

Students **MUST** 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 GAC during all phases of graduate study to keep them informed of progress and setbacks. Students must meet at least annually with their GAC 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. If a student is having problems with their GAC they should speak to their respective Program Coordinator. If an advisor or committee chair decides to not serve on a student's GAC it is the responsibility of the student to find a replacement for that member or to find a new chair, otherwise the student may be dropped entirely from the university.

On occasions, it may be necessary to replace a committee member or a committee chair. If such a situation arises, the student should consult their committee chair or the BIOL 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 a majority agreement of the remaining committee members and the Program Coordinator. Should a dispute arise between a student and any committee member, the student should consult with their committee chair, BIOL program coordinator, or the Department Chair.

## **Degree Plan**

Each student, with input from the GAC or faculty supervisor, formulates a degree plan, which details the coursework that the student will undertake for his/her degree program. The minimum number of hours that are taken by all M.S. students is 36 credit-hours at the 5000- or 6000-level; however, many students will take more than the minimum, either because they wish to expand their knowledge, or because their committee requires additional coursework to address deficiencies. To address deficiencies, the GAC may require a student to take coursework at the 4000-level or less; these courses are regarded as foundation work and will not be counted toward the total. Up to nine (9) credit-hours of graduate-level coursework may be approved for transfer from another university or program.

*A degree plan must be filed with the Academic Advisor for Life Sciences (Ms. Ronnie Emanuel) no later than the end of the second long-semester after the student begins his/her program.* The requirements for tracks and options are listed below.

## **Thesis and Professional Paper Research Prospectus and Proposal**

See the separate on-line BIOL and FAMA [Style Guide](#) regarding research prospectus and proposal.

**NOTE:** For projects involving research with vertebrate animals (e.g., fish), an Institutional Animal Care and Use Committee (IACUC) protocol must be submitted to the [Research Compliance Office](#). The protocol must be approved by IACUC **before** any data is collected that will be used in your thesis. For projects involving human subjects (even surveys), an Institutional Review Board (IRB) protocol must be submitted to the [Research Compliance Office](#). The protocol must be approved by IRB **before** any data is collected that will be used in your thesis.

Students should prepare protocol and other compliance forms along with their graduate advisor(s).

It is in the best interests of the student to **ensure the proposal is approved by the committee AND compliance office prior to the start of the research.** The student should report regularly on research progress to the advisor and committee to prevent last minute surprises or misunderstandings and to gain approval of any redirection.

## **BIOL M.S. – Thesis Track Requirements**

The BIOL thesis degree program requires students to propose an original research project, conduct the proposed research, and then prepare a thesis manuscript based on that research (see the on-line BIOL and FAMA [Style Guide](#) for more information about the preparation of the documents required to fulfill Thesis Track Requirements). The proposed research must be approved by the GAC and conducted while the student is enrolled at TAMUCC. The thesis must include review of the relevant literature, a description and statistical analysis of research results, and a discussion of the results that contextualizes the research within the larger body of research in the discipline. A minimum of 36 hours are required, which can include up to 4 hours of BIOL 5940 Project Research with approval of the GAC. In addition to the required credit hours associated with the research project, there are other required and elective courses that must be taken.

<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Total Credit Hours</b>
MATH 6315	Statistical Methods in Research	3	3
BIOL 5392	Thesis Proposal (proposal must be approved by GAC to receive credit)	3	3
BIOL 5393	Thesis Research (first draft of the thesis must be produced to receive credit)	3	3
BIOL 5394	Thesis Submission (final thesis manuscript must be approved by the GAC to receive credit)	3	3
BIOL 5102	Graduate Defense Seminar (taken in the last semester)	1	1
	Elective, specialized, topical coursework approved by the GAC		23*
		<b>Total</b>	<b>36*</b>

\*minimum number of credit hours required

## **BIOL M.S. – Professional (non-thesis) Track Requirements**

The BIOL professional track MS degree is designed to provide a broad understanding of biology and will especially benefit those who are already employed and are seeking advancement or additional training to enhance their knowledge and skills. This degree is heavily weighted toward additional coursework rather than research and consists of required and elective coursework, and a research project approved by the GAC that can typically be completed in one long semester. The professional paper produced must demonstrate the student's knowledge of the relevant background literature, their ability to collect, organize and analyze data, and their ability to contextualize their data with the broader body of work within the discipline (see the on-line BIOL and FAMA [Style Guide](#) for more information about the preparation of the documents required to fulfill Professional Track Requirements). A minimum of 36 credit hours are required for graduation. **BIOL 5940 Project Research hours will NOT be counted toward the degree in the professional track.**

Course Number	Course Title	Credit Hours	Total Credit Hours
MATH 6315	Statistical Methods in Research	3	3
BIOL 5397	Directed Research (taken the semester when the Professional Paper will be completed, usually the last)	3	3
BIOL 5102	Graduate Defense Seminar (taken in the last semester)	1	1
	Elective, specialized, topical coursework approved by the GAC		29*
		<b>Total</b>	<b>36*</b>

\*minimum number of credit hours required.

### **Deadlines**

#### **Thesis/Professional Paper and Oral Examination Deadlines**

Students must be able to formally present/defend the results of their research (thesis track and some professional track) and complete the oral examination administered by their GAC (or supervisors) by deadlines that are established by the College of Graduate Studies in order to graduate at the end of the semester. These are **generally two weeks before graduation** but should be verified with your academic advisor (not GAC supervisor) at the beginning of the semester the student determines in which they will be defending.

Thesis manuscripts must be approved and signed by the GAC and submitted online along with forms and fees according to the College of Graduate Studies [schedule](#) in any given semester.

Professional papers must be approved and signed by the GAC or faculty and internship supervisors and turned in to the Academic Advisor **on or before the last day of classes** in any given semester.

#### **Graduation Deadlines**

You must submit a completed application for graduation through [SAIL](#) by the posted deadline. It is highly recommended that you make an appointment with your academic advisor to review your records and be sure you are clear (i.e., all requirements met) for graduation.

Graduation deadlines are posted by the Office of the Registrar at

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<http://catalog.tamucc.edu/index.php> and the College of Graduate Studies Master's Student Handbook  
<http://gradschool.tamucc.edu/>

[http://registrar.tamucc.edu/degrees\\_graduation/apply\\_for\\_grad.html](http://registrar.tamucc.edu/degrees_graduation/apply_for_grad.html).

#### Commencement

For dates, times and location of the commencement ceremonies please visit

<http://commencement.tamucc.edu/>.

#### ***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. Attending seminars and student presentations of proposals or research will allow you to see what is expected and should be viewed as another learning experience.