

# Graduate Student Handbook

Department of Biological Sciences at Texas Tech University

Most Recent Revision August 2024

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## Change Log Since Last Update

- Added section on [Graduate Employment in DBS](#) (faculty vote December 2023)
- Added subsection on [Annual Evaluations](#) (faculty vote April 2024)
- Reorganized handbook with navigable links
- Updated TTU Graduate School policies on [Degree Plans](#) and [Annual Evaluations](#)

## GENERAL REQUIREMENTS OF THE GRADUATE PROGRAM

See also [Frequently Asked Questions](#) at end of handbook

The Department of Biological Sciences has six graduate degree programs: the **Non-Thesis-Master's** degree programs in [Biology](#) and in [Microbiology](#) designed to make a substantial contribution to the intellectual development of students who are not interested in pursuing a research-oriented career in science; the [Thesis-Master's degree](#) programs in Biology and in Microbiology designed for students who want to pursue a career in science, including research, teaching and/or health sciences; and the [Doctoral degree program in Biology](#) designed to prepare students for research-oriented scientific careers in academia, industry, and management. Finally, the department supports one degree offered by the [Professional Science Master's \(PSM\)](#) program. Specific requirements for each of these degree programs are different and are discussed in other portions of this document. The first part of this document outlines issues relevant to all the programs listed above.

### Course and Credit-Hour Requirements

Students working on Master's degrees are required to take at least 30 credit-hours beyond the Bachelor's degree. Students working on Doctoral degrees are required to take at least 72 credit-hours beyond the Bachelor's degree. Details regarding the number of research hours that can be counted towards the degree are addressed in the respective sections of the Handbook. While the exact classes required for the degree are determined by the student's Advisory Committee, the following two courses are required of all graduate students unless granted an exemption by the course Instructor of Record, Department Chair and Graduate Advisor:

**BIOL 5322 - Biology Pedagogy** must be completed by all graduate students in their first year that wish to be considered for a teaching assistantship. Ph.D. students – also see the section under Doctor of Philosophy in Biology.

**BIOL 6202 Preparation for Graduate Learning and Teaching in Biology** must be completed during the first fall semester in the program. Ph.D. students – also see the section under Doctor of Philosophy in Biology.

All Thesis-based or Doctoral students must take the appropriate courses listed below.

**BIOL 6000/MBIO 6000 (Master's Thesis)** or **BIOL 8000 (Doctor's dissertation)** – at least 6 credit-hours for a Master's, or 12 hours for a Ph.D. of the relevant course is required

**BIOL 7000 (Research)** – PhD students should generally try to keep the number of BIOL 7000 hours below **50** and Master's students should keep the number of BIOL 7000 hours below **15**. Non-thesis Master's students may take up to **6** hours of BIOL 7000 for credit. These limits are intended to help students finish graduate degrees within a reasonable time period (see below and sections on [Master's](#) and [PhD](#) degrees for details) and prevent students from accumulating too many credit hours (99 for PhD, 45 for Master's), unless there are exceptional or extenuating circumstances.

**Leveling courses.** Incoming graduate students with educational gaps in their background may be required by their Advisors or Advisory Committee to take courses to fill these gaps. These gaps will be identified during the initial Advisory Committee meeting (in the first semester of enrollment). Leveling (or pre-requisite) courses cannot be counted towards the graduate degree being sought, however they can be counted towards the 9 hours needed for a TA/RA/GA to receive a tuition waiver.

**Languages and research tools.** The Department of Biological Sciences does not require a foreign language or a research tool subject (for example, computer programming) for the graduate degree.

### Enrollment and Degree Progress

All graduate students are required to register for appropriate courses every fall, spring, and summer semester in which they expect to receive financial assistance (RA-ship, TA-ship, GA-ship, see below).

Students are expected to register for a number of course hours commensurate with the anticipated level of effort in their graduate studies. Except in unusual circumstances, all students who are pursuing graduate degrees will be enrolled full-time.

- For students in the Non-Thesis degree programs, full-time enrollment is normally 12 credit-hours in a regular semester and 6 hours in the summer session; this allows degree completion within one calendar year. However, if the student does not plan on finishing within one year, the number of hours can be reduced.
- For students conducting research, or who are on fellowships, assistantships, or other appointments that require duties other than course work, full-time enrollment is normally 9 credit-hours in a regular semester and 3 hours in each summer session (summer 1 or summer 2) for which they receive support (i.e., 21 hours per calendar year).
- For students not receiving support from an RA or TA, or not on campus, there is a minimum of 1 hour (typically BIOL 6000, BIOL 8000 or BIOL 7000) that you must enroll in during the long semesters. If you are graduating and defending in the same semester (and not being supported on an RA or TA) you must enroll in at least 3 hours of either Thesis (BIOL 6000) or Dissertation (BIOL 8000), respectively for the M.S. or PhD degrees. If you have defended the semester before you graduate, you may register for only 1 hour of the appropriate thesis or dissertation course for your degree.

### Time to Degree Completion and Maximum Allowable Graduate Credit Hours

- The maximum time allowed for completing a Master's degree is **six years**; the Ph.D. must be completed in **eight years** (or four years after the Qualifying Examination).
- Graduate students who are not making timely progress toward completion of their degree are subject to termination by the Dean of the Graduate School.

The department welcomes non-traditional students who may be pursuing a graduate degree in addition to their regular employment. Students should consider that the TTU Graduate School

typically requires continuous enrollment of 3 credits per long (spring/fall) semester, and has time limits for completion of degrees (6 years for Master's, 12 years for Ph.D.). In addition, students will need to work with their Advisory Committee to consider expectations for timely progress towards completion. For more information, contact the DBS Grad Advisor or DBS Graduate Program Coordinator.

### Transfer Credit

If the student wishes to receive transfer credit for graduate courses taken at another U.S. institution, the course prefixes and numbers on the student's transcript from that institution must be listed as well as the equivalent graduate courses at Texas Tech University. The student should be prepared to provide the Graduate Advisor and the Graduate School with copies of the transcript.

Up to 6 hours of course credit can be transferred for the MS and 9 hours for the PhD from another institution. Such courses are subject to approval by the Graduate School after submission of the Degree Plan. For transfer of courses from international institutions a certified line-by-line credential evaluation must be provided for international coursework you wish to transfer towards your degree. Please visit <https://www.naces.org/members> for a list of accredited credential evaluation providers.

### Academic Standing

- Grades of **"D" or "F"** in any graduate course cannot be applied to the Degree Plan. Students may retake these courses to fulfill requirements on the degree plan, but the original D/F grade is retained in calculating their GPA.
- Good standing requires the following conditions are met:
  - The student is on track with required paperwork relative to their time in degree (see provided checklist)
  - The student has maintained the **required GPA of 3.0**. While "C"s count towards the degree, if students receive a grade of "C" in **six hours or more** of any courses taken to satisfy the degree plan, they will cease to remain in good standing.
  - The student is making adequate progress towards their degree
  - The student has consistently fulfilled any previous TA/RA/GA jobs
  - The student has provided proof of English Proficiency (International Students)

Regarding this policy, International Students **must** pass the proficiency exam. They are allowed to take the exam up to three times. If they fail to pass the third time, students can no longer be supported by the Department as a TA, RA, or GA (see below)

### Departmental Support

- Departmental support is provided to our graduate students through Teaching Assistantships (TA-ships), Research Assistantships (RA-ships) and General Assistantships (GA-ships). The duties and benefits of each differ, and the student is expected to be aware of the [specific requirements and policies that govern each](#).
- To qualify for departmentally funded TA, RA, or GA, the graduate student **must be in good academic standing**. For students in good academic standing, the Department will provide at least 3 or 5 years of support (Fall and Spring Semesters) for students enrolled in the Thesis-Master's and Doctoral degrees, respectively. Summer support during this period

is not guaranteed. Doctoral students will receive an additional **\$1000 per year** upon achieving candidacy starting with the next semester after passing the Qualifying Examination. This will continue up until the 5 year time limit for guaranteed support.

- Additional TA or GA support may be provided to meet departmental teaching need
- Additional RA support may be provided through grant or fellowship funding awarded to the student directly or to their advisor
- If the previous two points do not apply, students in need of departmental support in excess of the time limits must be approved by the GSAC.

### Annual Departmental Graduate Student Meeting

Sometime during the **week before classes begin** in the fall semester, the Chair of the Department and other faculty will meet with the graduate students to communicate important news and information. Attendance at this meeting is **mandatory** for all students. In addition, course coordinators often hold organizational meetings with their respective Teaching Assistants during the same week that a certain lab is being presented.

### Advisory Committees

All students must form an Advisory Committee **no later than the end of first year** of enrollment in the Thesis-Master's or Ph.D. degree programs. The Advisory Committee for students completing a thesis-based M.S. or Ph.D. degree will set any comprehensive or oral examination requirements. A majority vote by the committee is needed to pass qualifying exams, oral exams, and dissertation defenses.

The Major Advisor is the chair of the Advisory Committee and should be faculty in the Department of Biological Sciences. A typical committee is a minimum of three faculty for Thesis-Master's students and a minimum of five faculty for Doctoral students. A majority of Advisory Committee members must be faculty in the Department of Biological Sciences. Adjunct Faculty approved by the Graduate School can serve as committee members or co-chairs of advisory committees.

If a proposed member of the Advisory Committee is at an institution other than Texas Tech University or the TTU Health Sciences Center, the Graduate School must approve the external member. Students and their major advisors should work with the Graduate Program Coordinator to collect necessary information, including the curriculum vitae (CV) for the external member, identity of the other committee members, and a few sentences explaining why the external member is appropriate for the committee.

No later than the end of the 2nd long semester, the Advisory Committee will work with the student to come up with a [Degree Plan](#) (see below) which outlines the courses the student will be required to complete and include any leveling courses. This Degree Plan should be filed with the Department and the Graduate School by the end of the student's first year.

All PhD students and Thesis MS students are required to meet with their advisory committee at least once per academic year. A committee meeting for this purpose is defined as at least 75% of members present to discuss the student's research and progress towards their degree. Students shall report each committee meeting to the DBS Graduate Program Coordinator.



The Non-Thesis M.S. students will only meet with their Advisory Committee twice, first to approve the degree plan, and then when either the comprehensive oral exam is administered or the capstone presentation is made. Additional details are addressed in the section of the Handbook dealing specifically with the Non-Thesis M.S.

#### Changes in the Advisory Committee

Occasionally, it may become necessary for a student to change the composition of their Advisory Committee.

- A student changing their Major Advisor should inform the current Major Advisor directly, or through the GSAC or Departmental Chair.
  - In the case where the Current Major Advisor is leaving DBS, another member of the student's Advisory Committee is usually appointed as new lead advisor.
  - If a change in Major Advisor is desired by the student for reasons that cannot be resolved through consultation with the GSAC or Department Chair, another Major Advisor will be appointed. Unless there has been a significant shift in research direction, the new main advisor will preferably come from the current committee.
- In the case of a proposed change other than the Major Advisor, the process can be initiated by the Major Advisor or student. Professional courtesy requires that the committee member being replaced be informed about plans for change and reasons for the decision.
- If a degree plan has been filed prior to any of the above changes in the composition of the Advisory Committee, a "New Degree Plan Form" must be completed, signed by the Department's Graduate Advisor (Chair of the Graduate Student Affairs Committee), and submitted to the Graduate School.

#### The Degree Plan

All Master's and Doctoral students must submit a "Degree Plan Form" to the DBS Graduate Program Coordinator no later than the end of their second semester in the program. The degree plan should be filled out in coordination with the students' Advisory Committee and signed by the Major Advisor.

All courses (regardless of prefix) that are required to complete the M.S. or Ph.D. degree should be listed under the Major's column. In the case of individual study courses or those that can be repeated for additional credit (e.g., BIOL 6100, BIOL 6101, BIOL 6301, and BIOL 6309), specific titles should also be listed.

As noted above, a minimum of **30 credit hours** of course work for Master's students and **72 credit hours** for Doctoral students must be listed on the degree plan. Undergraduate courses cannot be counted toward any graduate degree. Graduate courses (up to 12 hours) taken as an undergraduate may only be counted towards the graduate degree, if they are not required for the completion of the undergraduate degree.

Tool, Language, or Leveling courses are listed only if required by the Advisor or Advisory Committee. They normally do not count toward the graduate degree unless indicated by the Advisory Committee.

The Graduate Program Coordinator will forward an approved Degree Plan to the Graduate School, and a copy will be retained in departmental files. The student should also keep a copy. Changes to the Degree Plan should be submitted to the Graduate Program Coordinator.

### Admission to Candidacy

Every applicant for a graduate degree is required to make a formal application for admission to candidacy.

- For Master's students, admission to candidacy is combined with the Degree Plan. The required form (Master's Degree Plan and Admission to Candidacy) should be filed after at least 9 credit-hours of classwork have been completed (excluding leveling courses), and no later than the end of the second long semester.
- For Doctoral students, the Degree Plan is separate from the Application for Candidacy. Candidacy cannot be requested until after the student has satisfactorily passed the Qualifying Exam (for details, see [Ph.D. section of the handbook](#)). Upon receipt of a recommendation from the student's Advisory Committee submitted to the DBS Graduate Program Coordinator by the Major Advisor, the request will be reviewed by the Graduate Dean and Council. A student must be admitted to candidacy for the doctorate at least one year prior to the proposed graduation date.
- The Graduate Catalog should be consulted for any additional requirements that must be met before Admission to Candidacy is granted for each of the respective degrees. Subsequent changes in the degree plan must also be approved and filed with the Graduate School.

### Intent to Graduate

Early during the semester of intended graduation, a "**Statement of intention to graduate**" must be filed at the Graduate School, and payment of all required fees must be posted to the student's University bill. Since exact dates for these requirements vary with the semester, the current "Graduation Deadlines" posted on the Graduate School website and Academic Calendar should be consulted.

### Final Oral Examination or Capstone Presentation

#### Non-Thesis Programs

Before earning the M.S. degree in one of the **Non-Thesis Programs**, each student must either make a capstone presentation or pass a final examination in the major field. Details are presented in the section on Non-Thesis-Master's degree. The results of the examination must be reported to the Graduate School approximately four weeks prior to graduation (consult the "Graduation Deadlines" posted on the Graduate School web site for the exact date), and the examination should be scheduled with this deadline in mind. Students should also understand that faculty members may not be available for an examination during the summer.

### Thesis Program M.S. and Dissertation Program Ph.D.

For the Thesis-Master's and Doctoral degrees, a final oral examination is administered by the student's Advisory Committee; it is an examination based on the student's thesis or dissertation research and follows a public seminar presentation. Students should consult the official TTU Academic Calendar to identify deadlines for thesis and dissertation defenses for each graduation term (typically: end of October, March, or June). **Students should submit their thesis or dissertation to their Advisory Committee at least three weeks prior to the examination.** Students should consult with the Advisory Committee to select a date and time for the dissertation or thesis defense. The public portion of this defense should be scheduled via the Graduate Program Coordinator and announced (e.g. via email) to the department at least one week in advance.

The Committee members will use a question-and-answer format to assess the extent of the student's knowledge and understanding of the basic scientific principles the student has been exposed to through their research, thesis work, course work, and readings. The student is expected to deliver responses that are concise and well-reasoned. As soon as possible after the examination, the Major Advisor will report the results to the Dean of the Graduate School via forms available [on the TTU Graduate School website](#). Students should be cognizant of Graduate School deadlines. Additional details of each exam and expectations are presented in the sections dealing with [Thesis M.S.](#) and [Doctoral](#) degrees, respectively.

### Annual Evaluation

Per Graduate School policies, all PhD students and Thesis-Master's students are required to submit annual reviews on the TTU Faculty Success website. Annual reviews will be due each year on August 1 for the preceding academic year. The annual review shall, **at a minimum**, address the following:

1. A summary of progress towards degree and towards career goals in the past year, including relevant discussion at the student's committee meeting
2. Goals and plans to achieve these goals before the next annual review

Additional elements (e.g. awards, papers, presentations, or additional feedback from the committee) may be added to the annual report – the full requirements shall be decided by each student's thesis/dissertation advisory committee. The most common time for graduate students to complete their annual review is during or shortly after their required annual committee meeting.

Following the annual committee meeting, the student shall circulate the annual report to committee members. Committee members shall review the report and raise any objections or corrections within one week of receipt. All committee members and the student should agree to the content of the report. After incorporating any objections or corrections to the annual review, graduate students shall send a copy to the DBS Graduate Program Coordinator to document their committee meeting. Students are also required to add their annual review to the Self Appraisal section on Faculty Success. It is the responsibility of the student to ensure that the version uploaded to Faculty Success matches the version agreed upon with the committee. The TTU

Graduate School also requires that “work products” (papers, presentations, creative works, etc.) are uploaded to the appropriate sections on Faculty Success.

Failure to submit timely annual reviews or hold annual committee meetings may impact students’ priority for teaching assistant positions and departmental awards/scholarships. If a student has an issue preventing an annual review or committee meeting, they should work with their major advisor and the Graduate Student Affairs Committee to discuss compliance with these requirements.

### Academic Probation, Suspension, and Dismissal

The Graduate School sets the policies that govern probation, suspension, and dismissal based on the student’s current and cumulative GPA, timely progress, and completion of required courses or exams. Graduate students should ensure that they are familiar with these policies.

- Students whose cumulative GPA falls below 3.0 are placed on academic probation
- In the subsequent semester, if the student’s GPA is above 3.0, but the cumulative GPA remains below 3.0, the student is placed on continuing probation
- Students who fail to raise their cumulative GPA above 3.0 by the end of the 2<sup>nd</sup> long semester following initial probation, are placed on Academic Suspension
- Students on Academic Suspension are required to remain out of the graduate school for one term, and must reapply for admission (See OP 64.07); readmission is not guaranteed
- Students placed on Academic Suspension twice will be dismissed from the graduate school
- Other causes for probation, suspension, and dismissal from the program include continued failure to make good progress towards the degree, failure to complete required leveling courses in a timely fashion, and repeated failure to pass qualifying examinations

### Termination Policy

If students fail to perform to the required research standards or progress towards their degree, advisors will use the following process:

For egregious errors or problems (severe safety violations, plagiarism, gross non-performance, sexual assault, etc.), the student may be terminated outright. The Major Advisor will notify the Graduate Student Advisory Committee (GSAC) and Department Chair. The student may appeal to the GSAC, which will investigate and work with the Major Advisor to come to a resolution.

For moderate problems, the Major Advisor will submit a report to the student, GSAC and chair, detailing the problems. Student and advisor will agree on a plan forward, mediated by the GSAC or Chair as needed, and supplied to the department. In the next semester, the plan will be re-evaluated for student progress, and student either terminated, continue probation, or the problem resolved. Probation for any particular set of problems continuing for more than 3 semesters will yield termination.

The Major Advisor may resign from the student’s committee. In this case, the student needs to identify another DBS faculty member willing to serve as the committee chair. If none can be found, the student will be terminated. Additional details on conflict resolution can be found in the [Graduate Employment section](#).

Failure to pass qualifying/comprehensive exams or defense may also be grounds for termination, as described [in the PhD section](#). In extreme cases of disagreement, the student and the faculty member both have the right to file an official grievance, according to normal grievance policies of the University ([O.P. 64.07](#)).

## Graduate Employment in the Department of Biological Sciences

As noted above, graduate students may be financially supported by a Teaching Assistant, Research Assistant, or Graduate Assistant position. Requirements and eligibility for these positions are determined by the student's Major Advisor, degree track, and academic standing.

### Teaching Assistants (TAs)

Teaching assistants work for the department as "0.5 Full-Time Employee (FTE)." This is a salaried position, which means individual hours are not logged; however, an average of 20 hours per week is expected. A Teaching Assistant position provides a salary and grants graduate students a partial tuition waiver. Each semester, the Associate Chair responsible for TA assignments will ask all graduate students whether they intend to seek a TA position in the upcoming semester. To request a TA position, a graduate student must acknowledge the general DBS TA Agreement. The Associate Chair shall provide provisional TA assignments no later than two weeks prior to the end of the long semester before the new semester.

Once assigned to a course, the TA is responsible for working with the Instructor of Record (IoR) or Course-Coordinator (CC) to set a standard of conduct, expectations, and responsibilities including (but not limited to) how the TA and IoR/CC will:

- Identify the on-duty dates and regularly scheduled meetings
- Select laboratory/discussion/recitation section assignments
- Resolve scheduling conflicts due to courses or university-sponsored travel
- Coordinate coverage during unexpected absences
- Clarify other responsibilities and expectations as fit the needs of the course
- Promote a healthy professional working environment for all course personnel

Teaching Assistants are responsible for maintaining a professional workspace in the classroom and when working with other teaching assistants, staff, and faculty. The standard of conduct, expectations, and responsibilities laid out by the IoR/CC should be maintained throughout the semester.

Teaching Assistants who are assigned to scheduled contact hours (labs, discussion sections, recitations, office hours, etc.) are expected to maintain these hours throughout the semester. Scheduled sections cannot be canceled or rescheduled without approval from the IoR/CC. Procedures for covering sections in the event of unexpected absences (illness, emergency, etc.) should be set prior to the semester by the IoR/CC. Absences due to university-sponsored travel (e.g. conferences) should be discussed at the beginning of the semester or no later than two weeks before the absence.

Typically, a laboratory/discussion/recitation TA will be responsible for one or more laboratory, discussion or recitation sections of the same course within a semester. Other TA positions may

include “Lecture TAs” who work to facilitate discussion and grading in lecture, and “Prep TAs” who are responsible for preparing materials for laboratory sections each week. If a Teaching Assistant has an issue with TA workload, they will be asked to document their hours working on class materials over a period of at least two weeks. This will be compared with the expectations and responsibilities agreed to with the IoR/CC at the beginning of the semester.

Teaching assistants that are unable to meet this standard of conduct will be referred to the Department Chair for corrective action, which can include a removal from future TA employment or termination under [TTU System Regulation 07.07](#).

All TA’s who are responsible for assigning grades to students in an undergraduate lab section must submit an approved syllabus through Digital Measures (= Faculty Success, FS) according to House Bill 2504. FS can be accessed at the Biology website under Resources. In addition, all Graduate Students must take the training for the Freedom of Educational Records Privacy Act (FERPA) and Responsible-Academic-Conduct during their first semester at TTU. Failure to do so can result in blocking of TA-ships and/or even graduation. Follow the link below to take the one-time training: <https://www.depts.ttu.edu/gradschool/training/responsible-academic-conduct-training.php>

#### Research Assistants (RAs)

**Research Assistants** work under a principal investigator (PI) to conduct research activities, often funded by a grant or other funds available to the PI or the department. The job is considered a 0.5 FTE salaried position and may or may not involve activities related to the student’s own thesis/dissertation research activities. The RA-ship is awarded at the discretion of the PI (or the department) and may be discontinued for failures to perform professionally in the position. It is the responsibility of the RA to communicate with the PI prior to the onset of the RA position to understand expectations associated with the support.

#### Graduate Assistants (GAs)

**Graduate Assistants** are part-time hourly pay offerings for up to 20 hours/week for completing tasks related to the department needs (e.g., greenhouse, microbiology prep, building support), or laboratory tasks that are not research (e.g., lab chores). Unlike TA and RA positions, a GA does not receive a tuition waiver. It is the responsibility of the GA to communicate with supervisor at the time of the GA position onset to understand expectations and resolve schedule or travel conflicts. The GA-ship is offered at the discretion of the supervisor and may be discontinued if the GA is unable to fulfill the delineated duties in a responsible and professional manner.

#### Resolving Conflicts and Corrective Actions

As University employees, all TA, RA, and GA positions are subject to TTU System Regulation 07.07, which provides guidelines for coaching and corrective action. Conflicts about workload, classroom management, or other responsibilities and expectations should first be discussed between a TA and their IoR, RA and their PI, or GA and their supervisor. If the conflict cannot be resolved at the level of the student and their supervisor, the dispute will be elevated to the department. There are several options the Department may take when a student employee is in



violation of the responsibilities, expectations, and standards of conduct described by supervisors at the beginning of the semester:

- Verbal counseling: The student and supervisor meet to discuss any conflict. It is good practice to follow up this meeting with an email so that expected changes are understood.
- Mediation: A TA/RA/GA may request and have a meeting with the IoR/CC/PI and Graduate Program Advisor or the Graduate Student Affairs Committee to discuss ongoing conflicts, and the resolution of any prior verbal counseling or corrective actions.
- Corrective Action: Failure to resolve the issue may lead to the Department Chair and/or Associate Chair(s) filing an [official corrective action report](#) with TTU Human Resources. The document will outline ways in which the TA/RA/GA must improve or risk termination of employment.
- Termination: ending employment is reserved for especially serious infractions, or for repeated violations after the student employee fails to implement corrective actions.

The decision to issue verbal counseling, written corrective action, final warnings, and termination will depend on the severity and repeated nature of violations.

#### TA Evaluation

Each semester, course instructors will evaluate their TAs on a 50-point scale according to the following rubric: A good TA doing an acceptable job should earn a 30. Any score >39 or <20 should be justified by comments detailing concrete examples of either exceptional (>39) or problematic teaching behavior (<20). See below for a sample rubric.

45-50: Exceptional TA, perfect, as detailed in your thorough comments.

40-44: Excellent TA, went well above and beyond the call of duty, as detailed in your comments.

35-39: A great TA who did a great job. You would fight other faculty to have this TA again.

32-34: A good TA who did a great job or a great TA who did a good job. "A+."

29-31: A good TA who did a good job. This should be the mode of all TA scores. "A."

26-28: A TA who did an adequate job. Perhaps a little below departmental standards, but still acceptable. "B."

20-25: A TA who did the bare minimum, or lacked needed experience to TA the course, or had other problems. Improvement in teaching is needed. "C."

10-19: Not acceptable performance as a TA. Many failures and problems which are detailed in comments. Given lowest priority for another TA

0-9: Not acceptable as a TA. Failed to perform expected job duties. Probably should not be awarded another TAsip without demonstrable improvement.

Students scoring <20 more than 2 times will no longer be eligible for a TAsip. For any score >39 or <20, the Associate Chair, Chair or GSAC will review instructor comments and student evaluations. They will either agree with the instructor score or readjust the score to reflect the

comments and evaluations. Both instructor and student evaluations will be stored to track teaching/progress, qualifications for teaching awards, and TA assignment. TAs will receive this feedback. Students with TA scores under 25 will be given lower priority for TAs. To control for overly exuberant or critical faculty, these scores may be percentiled at the Chair's discretion.



## PROFESSIONAL SCIENCE MASTER'S PROGRAM IN ENVIRONMENTAL SUSTAINABILITY

The Professional Science Master's (PSM) degree program in Environmental Sustainability is recommended for many students interested in entering the workforce as mid-level managers in Environmental Sustainability positions in National and Multinational Companies, City and Local governments and non-profit organizations. Additional formal course work helps bolster knowledge and learning and may enhance employability. The student must complete at least **30 hours** of subject related course credit beyond the Bachelor's degree including 15 credits of required courses including the 3 credit internship (240 clock hours), and 15 credit hours of interdisciplinary electives. Additional coursework in Professional Skills (credit or non-credit) is required. In lieu of a thesis, a portfolio of student's coursework and internship report are presented for defense.

### Admission to the PSM Degree Program

Applications for admission into the PSM degree program in Biology may be considered and acted upon by the department's Graduate Student Selection Committee (GSSC) or chair's designee for Non-Thesis program. Currently, decisions to admit students are based upon:

- (1) the grade point average (GPA) over the last **60 hours** of undergraduate course work (for applicants who have or are about to receive a Bachelor's degree);
- (2) two letters of recommendation from academic contacts;
- (3) in the case of **international students** for whom English is a second language, the scores for the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Duolingo
- (4) a Cover Letter introducing the application and explaining how the PSM degree will help the student attain their career goals.

In contrast to thesis degrees, PSM students are assigned a Major Advisor prior to admission. The chair's designee for the PSM program will initially serve as Major Advisor, though the designee may ultimately pair them with a different faculty Major Advisor.

### Advisory Committee

As soon as possible, but **no later than the end of the first semester** of enrollment in the Master's degree program, the student will form an Advisory Committee in consultation with their Major Advisor. This Committee is composed of **three** Graduate Faculty members, one of them being the Major Advisor who will serve as the Chairperson of the Committee. At least two-thirds of the Committee members (including the Chairperson) must be Graduate Faculty members in the Department of Biological Sciences (this may include Adjunct Faculty). The remaining committee member will be the PSM advisor or designee from the Natural Resource Management PSM track.

As soon as the student has filed the “Program for the Master’s Degree and Admission to Candidacy” form (see the “Degree Plan” section of this handbook), the Dean of the Graduate School will officially appoint the Advisory Committee. It is the responsibility of the student and Major Advisor to inform the Graduate Advisor and the Dean of the Graduate School of any changes in the composition of the Advisory Committee.

Occasionally, it may become necessary for a student to change the composition of their Advisory Committee. Changes should follow the procedure outlined in the general guidelines in the Graduate Handbook.

### Degree Plan

All Master’s students must submit a “Master’s Degree Plan and Admission to Candidacy” form to the Graduate School. This form, which must be signed by the Graduate Advisor, lists all required courses. It should be submitted as soon as possible but **no later than the second semester** of enrollment in the Master’s degree program. The Graduate Catalog should be consulted for any additional requirements that must be met before Admission to Candidacy is granted. Subsequent changes in the degree plan must also be approved by the Advisory Committee and filed with the Graduate School.

All requested information must be filled in on the form, including expected graduation date (month and year), and all members of the Advisory Committee.

Students are expected to register for a number of course hours commensurate with the anticipated level of effort in their graduate studies. Except for non-traditional students, or in unusual circumstances, all students who are seriously pursuing graduate degrees will be enrolled full time. Full-time enrollment is normally **12 hours** in a regular semester and 3 hours in the summer session. For students on fellowships, Teaching or Research Assistantships, or other appointments that require duties other than course work and research, full-time enrollment is normally 9 hours in a regular semester and 3 hours in each summer session (i.e., 24 hours per calendar year).

### Course Requirements

The student and Advisory Committee together will determine which courses must be taken to satisfy the PSM degree requirements. The student is required to complete at least **30 credit hours** beyond the Bachelor’s degree. No more than **6 hours** may be research (BIOL 7000 Research).

Required courses include 15 credits from the following courses:

BIOL 5309 Leveling Advanced Ecology  
BIOL 6360 Environmental Sustainability  
NRM 5320 Natural Resource Biopolitics  
NRM 5312 Ecology of Renewable Natural Resources  
BIOL 5000 Professional Internship

Elective courses of 15 credits from related courses chosen by the student in consultation with the advisor including related courses from other university departments.

Professional Pluss courses can be completed by completion of the Business Essentials Graduate Certificate from the Rawls School of Business, 4 professional skills related courses approved by the advisor from across university departments, or a not credit program through the university Skillsoft modules specified by the advisor and equal to 12 credit contact hours.

### TA Support

PSM students are NOT typically supported by TAs during the long semesters or summers. However, in the event that the department needs additional TAs, students may have the option to be supported by a TAship. Students receiving more than 6 semesters of support have lower priority for TAships and may not be guaranteed TA support.

### Graduation: Additional Requirements

During the semester of intended graduation, a “Statement of Intention to Graduate” must be filed at the Graduate School, and payment of all required fees must be posted to the student’s University bill. Since exact dates for these requirements vary with the semester, the current “Graduation Deadlines” posted on the Graduate School web site should be consulted.

### Final Oral Examination/ Capstone Activity

Completion of a PSM degree requires an internship and presentation of a PSM program portfolio. Traditionally, this is a ~2 hour oral presentation and defense of the portfolio administered to the student by the Advisory Committee in the student’s final semester. The content of the defense broadly covers the internship report and the student’s coursework. Satisfactory performance by the student is indicated by a majority affirmative vote of the Committee members.

### Deadlines and Time Limit

Although every effort will be made by both the Graduate Advisor and the Major Advisor to make the student aware of various University and Department regulations and deadlines, it is ultimately the student’s responsibility to see that these regulations are adhered to and that the deadlines are met (see the accompanying checklist). All course work applied towards a PSM degree must be completed within **six calendar years** after admission into the graduate program. Non-traditional students needing an exception to this time limit will send a letter to the GSAC or chair detailing the need for an exception.

### PSM in Biology Checklist

Students are responsible for seeing that all deadlines are met.

Item	Date or Deadline
Plan courses for first semester	Week before classes begin
Set up and meet with Advisory Committee	During first semester of enrollment

File degree plan (“Master’s Degree Plan and Admission to Candidacy” form) at the Graduate School: at least <b>30 hours</b> of graduate course work, no more than 6 hours of BIOL 7000  (must also file any subsequent course changes)	After first Advisory meeting, but no later than the end of the second semester of enrollment
File internship agreement form with Advisor	Due semester prior to start of internship but no earlier than upon completion of 75% of degree coursework.
Internship	During the final semester
File “Statement of Intention to Graduate” at the Graduate School	During the semester of graduation (exact deadline varies see Academic Calendar)
Graduation	Target: 1-2 years

## NON-THESIS-MASTER'S PROGRAM IN BIOLOGY

The Non-Thesis-Master's degree program in Biology is recommended for many students interested in improving their credentials to pursue advanced degrees or careers in science, including research, teaching, and medicine. Additional formal course work helps bolster knowledge and learning and may enhance employability. The student must complete at least **30 hours** of course credit beyond the Bachelor's degree. Generally, students will select a curriculum at the start in consultation with their advisor, and it will have no more than 6 hours of BIOL 7000 (Research). Students interested in research-intensive Master's degree should pursue the Thesis-Master's program instead.

### Admission to the Non-Thesis-Master's Degree Program

Applications for admission into the Non-Thesis-Master's degree programs in Biology may be considered and acted upon by the department's Chair's designee for Non-Thesis program. Currently, decisions to admit students are based upon:

- the grade point average (GPA) over the last 60 hours of undergraduate course work (for applicants who have or are about to receive a Bachelor's degree);
- two letters of recommendation from academic contacts;
- in the case of international students for whom English is a second language, the scores for the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS); and
- a Cover Letter introducing the application and explaining how the Non-Thesis-Master's degree will help the student attain their career goals.

In contrast to thesis degrees, Non-Thesis students are **not** required to choose a Major Advisor prior to admission. The chair's designee for the Non-Thesis program will initially serve as Major Advisor, though the designee may pair them with a different faculty Major Advisor. **Students are strongly advised to communicate with the Chair's designee for Non-Thesis Program before applying to the Graduate School.**

### Advisory Committee

As soon as possible, but **no later than the end of the first semester** of enrollment in the Master's degree program, the student will form an Advisory Committee in consultation with their Major Advisor. This Committee is composed of three Graduate Faculty members, one of them being the Major Advisor who will serve as the Chairperson of the Committee. At least two-thirds of the Committee members (including the Chairperson) must be Graduate Faculty members in the Department of Biological Sciences (this may include Adjunct Faculty). As soon as the student has filed the "Program for the Master's Degree and Admission to Candidacy" form (see the "[Degree Plan](#)" section of this handbook), the Dean of the Graduate School will officially appoint the Advisory Committee. It is the responsibility of the student and Major Advisor to inform the Graduate Advisor and the Dean of the Graduate School of any changes in the composition of the Advisory Committee.

The Advisory Committee will typically meet with the student twice: first to approve the course curriculum for the Non-Thesis-Master's degree, and a second time to conduct the final oral examination. This second meeting may be waived if the student completes a different capstone activity at the Major Advisor's discretion.

Occasionally, it may become necessary for a student to change the composition of their Advisory Committee. Changes should follow the procedure outlined in the general guidelines in the Graduate Handbook.

### Degree Plan

All Master's students must submit a "Program for the Master's Degree and Admission to Candidacy" form to the Graduate School. This form, which must be signed by the Major Advisor, lists all required courses. It should be submitted as soon as possible but **no later than the second semester** of enrollment in the Master's degree program. The Graduate Catalog should be consulted for any additional requirements that must be met before Admission to Candidacy is granted. Subsequent changes in the degree plan must also be approved by the Advisory Committee and filed with the DBS Program Coordinator.

All requested information must be provided, including expected graduation date (month and year), and all members of the Advisory Committee. If a proposed member of the Committee is at an institution other than Texas Tech University or the TTU Health Sciences Center, the Graduate School must be provided with their curriculum vitae. In general, the person's academic credentials should be equivalent to those of a Graduate Faculty member at Texas Tech University.

Students are expected to register for a number of course hours commensurate with the anticipated level of effort in their graduate studies. Except for non-traditional students, or in unusual circumstances, all students who are seriously pursuing graduate degrees will be enrolled full time. Full-time enrollment is normally **12 hours** in a regular semester and 3 hours in the summer session. For students on fellowships, Teaching or Research Assistantships, or other appointments that require duties other than course work and research, full-time enrollment is normally 9 hours in a regular semester and 3 hours in each summer session (i.e., 24 hours per calendar year).

### Course Requirements

The student and Advisory Committee together will determine which courses must be taken to satisfy the M.S. degree requirements. The student is required to complete at least **30 credit hours** beyond the Bachelor's degree. No more than **6 hours** may be research (BIOL 7000 Research).

The student and their Advisory Committee will decide together what courses are listed on the degree plan. Under the Major column, list all of the courses that are taken to complete the M.S. degree requirements in the major subject area. All graduate (5000 and 6000)-level courses with BIOL, BOT, MBIO, and ZOOL prefixes are considered as major courses. Formal courses are listed only by prefix and number without a title, e.g., BIOL 5320. For individual study courses or courses that can be repeated for additional credit (e.g., BIOL 6100, BIOL 6101, BIOL 6301, and BIOL 6309), different sections or specific titles should also be listed to indicate that the course does not have the same content each time it is taken. Up to **6 credit hours** of BIOL 7000 Research can be included on the Non-Thesis M.S. degree plan. If the student desires, two or three courses in

a subject area outside of the major can be designated as a minor and listed under the Minor column. However, this is entirely optional. A minimum of **30 credit hours** of course work must be listed on the degree plan. Undergraduate courses cannot be counted toward the Master's degree. Tool, Language, or Leveling courses are listed only if required by the Advisory Committee. The student's Major Advisor should communicate to the Graduate Advisor that the plan has been approved by the Advisory Committee. The Degree Plan is then uploaded to the Graduate School by the Graduate Administrative Assistant.

### TA Support

Non-Thesis-Master's students are NOT typically supported by TAs during the long semesters or summers. However, in the event that the department needs additional TAs, students may have the option to be supported by a TA. Students receiving more than 6 semesters of support have lower priority for TAs and may not be guaranteed TA support.

### Graduation: Additional Requirements

During the semester of intended graduation, a "Statement of Intention to Graduate" must be filed at the Graduate School, and payment of all required fees must be posted to the student's University bill. Since exact dates for these requirements vary with the semester, the current "Graduation Deadlines" posted on the Graduate School web site should be consulted.

### Final Oral Examination/ Capstone Activity

Completion of a Non-Thesis M.S. degree requires a capstone activity. Traditionally, this is a ~2 hour oral exam administered to the student by the Advisory Committee in the student's final semester. The content of the exam broadly covers the material learned in the student's coursework. Satisfactory performance by the student is indicated by a majority affirmative vote of the Committee members.

Alternatively (at the Major Advisor's discretion), a capstone activity, such as a course, project or internship, may be substituted for the final oral examination. Successful completion of the capstone activity or course (Grade of B- or higher) will complete the Non-Thesis-Master's degree.

A student who fails the capstone activity or exam may repeat it once in the following semester. In the event of failure, the Major Advisor will provide the student with a written summary of the perceived deficiencies and corrective actions that need to be taken before making the second attempt. As soon as possible after the examination, the Major Advisor will report the results to the DBS Program Coordinator and the Dean of the Graduate School.

### Deadlines and Time Limit

Although every effort will be made by both the Graduate Advisor and the Major Advisor to make the student aware of various University and Department regulations and deadlines, it is ultimately the student's responsibility to see that these regulations are adhered to and that the deadlines are met (see the accompanying checklist). All course work applied towards a Non-Thesis-Master's degree must be completed within **six calendar years** after admission into the graduate program. Non-traditional students needing an exception to this time limit will send a letter to the GSAC or chair detailing the need for an exception.

### Switch to Thesis-Master's or Ph.D.

In some circumstances, a student may desire to engage more fully in research. A change from a Non-Thesis to a Thesis-Master's degree will require a letter from the student's Major Advisor, agreeing to serve as the student's Major Advisor for a thesis, outlining the student's suitability for research, and how the student will complete the needed research within a reasonable time frame. This request will be considered by the DBS Graduate Student Selection Committee. For a change to a Ph.D., students are expected to first complete their Non-Thesis-Master's degree and then apply to the Ph.D. program.

### Non-Thesis MS in Biology Checklist

Students are responsible for seeing that all deadlines are met.

Item	Date or Deadline
Annual departmental graduate student meeting	Week before classes begin in the fall semester
Plan courses for first semester	Week before classes begin
Set up and meet with Advisory Committee	During first year of enrollment
File degree plan ("Program for the Master's Degree and Admission to Candidacy" form) at the Graduate School (must also file any subsequent course changes)	After first committee meeting, but no later than the end of the second semester of enrollment
Annual graduate student evaluation form	Due by August each year
File "Statement of Intention to Graduate" at the Graduate School	During the semester of graduation (exact deadline varies)
Capstone Activity/Course or Schedule Final Oral Examination	During the final semester
Graduation	Target: 1-2 years



## NON-THESIS-MASTER'S PROGRAM IN MICROBIOLOGY

The Non-Thesis-Master's degree program in Microbiology is recommended for many students interested in improving their credentials to pursue advanced degrees or careers in science, including research, teaching, and medicine. Additional formal course work helps bolster critical thinking, knowledge and learning, and may enhance employability. The student must complete at least 30 hours of course credit beyond the Bachelor's degree. Generally, students will select a curriculum at the start in consultation with their advisor, and it will have no more than 6 hours of BIOL 7000 (Research). Students interested in research-intensive Master's degree should pursue the Thesis-Master's program instead.

### Admission to the Non-Thesis-Master's Degree Program

Applications for admission into the Non-Thesis-Master's degree programs in Microbiology, may be considered and acted upon by the department's or chair's designee for Non-Thesis program (**Dr. Corey Brelsfoard**). Currently, decisions to admit students are based upon:

- (1) the grade point average (GPA) over the last **60 hours** of undergraduate course work (for applicants who have or are about to receive a Bachelor's degree);
- (2) two letters of recommendation from academic contacts;
- (3) in the case of **international students** for whom English is a second language, the scores for the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo
- (4) a Cover Letter introducing the application explaining how the Non-Thesis-Master's degree will help the student attain their career goals.

In contrast to thesis degrees, Non-Thesis students are not required to choose a Major Advisor prior to admission. The chair's designee for the Non-Thesis program will initially serve as Major Advisor, though the designee may pair them with a different faculty Major Advisor. **Students are strongly advised to communicate with the Chair's designee for Non-Thesis Program before applying to the Graduate School. Currently that is Dr. Corey Brelsfoard.**

### Advisory Committee

As soon as possible, but **no later than the end of the first semester** of enrollment in the Master's degree program, the student will form an Advisory Committee in consultation with their Major Advisor. This Committee is composed of **three** Graduate Faculty members, one of them being the Major Advisor who will serve as the Chairperson of the Committee. At least two-thirds of the Committee members (including the Chairperson) must be Graduate Faculty members in the Department of Biological Sciences (this may include Adjunct Faculty). As soon as the student has filed the "Master's Degree Plan and Admission to Candidacy" form (see the "[Degree Plan](#)" section of this handbook), the Dean of the Graduate School will officially appoint the Advisory Committee. It is the responsibility of the student and Major Advisor to inform the Graduate Advisor and the Dean of the Graduate School of any changes in the composition of the Advisory Committee.

The Advisory Committee will typically meet with the student twice: first to approve the course curriculum for the Non-Thesis-Master's degree, and a second time to conduct the final oral

examination. This second meeting may be waived if the student completes a different capstone activity at the Major Advisor's discretion.

Occasionally, it may become necessary for a student to change the composition of their Advisory Committee. Changes should follow the procedure outlined in the general guidelines in the Graduate Handbook.

### Degree Plan

All Master's students must submit a "Master's Degree Plan and Admission to Candidacy" form to the Graduate School via the DBS Graduate Program Coordinator. This form, which must be signed by the Graduate Advisor, lists all required courses. It should be submitted as soon as possible but **no later than the second semester** of enrollment in the Master's degree program. The Graduate Catalog should be consulted for any additional requirements that must be met before Admission to Candidacy is granted. Subsequent changes in the degree plan must also be approved by the Advisory Committee and filed with the Graduate School.

All requested information must be filled in on the form, including expected graduation date (month and year), and all members of the Advisory Committee. If a proposed member of the Committee is at an institution other than Texas Tech University or the TTU Health Sciences Center, the Graduate School must be provided with their curriculum vitae. In general, the person's academic credentials should be equivalent to those of a Graduate Faculty member at Texas Tech University. The DBS Graduate Program Coordinator can assist with approvals for external committee members.

Students are expected to register for a number of course hours commensurate with the anticipated level of effort in their graduate studies. Except for non-traditional students, or in unusual circumstances, all students who are seriously pursuing graduate degrees will be enrolled full time. Full-time enrollment is normally **12 hours** in a regular semester and 6 hours in the summer session to complete the degree in 1 year. For students on fellowships, Teaching or Research Assistantships, or other appointments that require duties other than course work and research, full-time enrollment is normally 9 hours in a regular semester and 3 hours in each summer session (i.e., 24 hours per calendar year).

### Course Requirements

The student and Advisory Committee together will determine which elective courses must be taken to satisfy the M.S. degree requirements. The student is required to complete at least **30 credit hours** beyond the Bachelor's degree. No more than **6 hours** may be research (BIOL 7000 Research). The curriculum is listed at the end of this section. Deviation from the curriculum needs to be approved by the Advisory Committee. The student must fill out the degree plan, in consultation with the Major Advisor. Under the Major column, list all of the courses that are taken to complete the M.S. degree requirements in the major subject area. Major courses are listed in the curriculum at the end of this section. Formal courses are listed only by prefix and number without a title, e.g., BIOL 5320. For individual study courses or courses that can be repeated for additional credit (e.g., BIOL 6100, BIOL 6101, BIOL 6301, and BIOL 6309), different sections or specific titles should also be listed to indicate that the course does not have the same content each time it is taken. Up to **6 credit hours** of BIOL 7000 Research can be included on the Non-Thesis M.S.

degree plan. If the student desires, two or three courses in a subject area outside of the major can be designated as a minor and listed under the Minor column. However, this is entirely optional. A minimum of **30 credit hours** of course work must be listed on the degree plan. Undergraduate courses cannot be counted toward the Master's degree. Tool, Language, or Leveling courses are listed only if required by the Advisory Committee. The student's Major Advisor should communicate to the Graduate Advisor that the plan has been approved by the Advisory Committee. The Degree Plan is then uploaded to the Graduate School by the Graduate Administrative Assistant.

### TA Support

Non-Thesis-Master's students are NOT typically supported by TAs during the long semesters or summers. However, in the event that the department needs additional TAs, students may have the option to be supported by a TAship. Students receiving more than 6 semesters of support have lower priority for TAs and may not be guaranteed TA support.

### Graduation: Additional Requirements

During the semester of intended graduation, a "Statement of Intention to Graduate" must be filed at the Graduate School, and payment of all required fees must be posted to the student's University bill. Since exact dates for these requirements vary with the semester, the current "Graduation Deadlines" posted on the Graduate School web site and/or Academic Calendar should be consulted.

### Final Oral Examination/ Capstone Activity

Completion of a Non-Thesis M.S. degree requires a capstone activity. Traditionally, this is a ~2 hour oral exam administered to the student by the Advisory Committee in the student's final semester. The content of the exam broadly covers the material learned in the student's coursework. Satisfactory performance by the student is indicated by a majority affirmative vote of the Committee members.

Alternatively (at the Major Advisor's discretion), a capstone activity, such as a course, project or internship, may be substituted for the final oral examination. Successful completion of the capstone activity or course (Grade of B- or higher) will complete the Non-Thesis-Master's degree.

A student who fails the capstone activity or exam may repeat it once in the following semester. In the event of failure, the Major Advisor will provide the student with a written summary of the perceived deficiencies and corrective actions that need to be taken before making the second attempt. As soon as possible after the examination, the Major Advisor will report the results to the Dean of the Graduate School.

### Deadlines and Time Limit

Although every effort will be made by both the Graduate Advisor and the Major Advisor to make the student aware of various University and Department regulations and deadlines, it is ultimately the student's responsibility to see that these regulations are adhered to and that the deadlines are met (see the accompanying checklist). All course work applied towards a Non-Thesis-Master's degree must be completed within **six calendar years** after admission into the graduate program.

Non-traditional students needing an exception to this time limit will send a letter to the GSAC or chair detailing the need for an exception.

#### [Switch to Thesis-Master's or Ph.D.](#)

In some circumstances, a student may desire to engage more fully in research. A change from a Non-Thesis to a Thesis-Master's degree will require a letter from the student's **Major Advisor**, agreeing to serve as the student's **Major Advisor** for a thesis, outlining the student's suitability for research, and how the student will complete the needed research within a reasonable time frame. This request will be considered by the Graduate Student. For a change to a Ph.D., students are expected to first complete their Non-Thesis-Master's degree and then apply to the Ph.D. program.

#### [Non-Thesis MS in Microbiology Checklist](#)

Students are responsible for seeing that all deadlines are met.

Item	Date or Deadline
Annual departmental graduate student meeting	Week before classes begin in the fall semester
Plan courses for first semester	Week before classes begin
Set up and meet with Advisory Committee	During first semester of enrollment
File degree plan ("Program for the Master's Degree and Admission to Candidacy" form) at the Graduate School: at least 30 hours of graduate course work, no more than 6 hours of BIOL 7000  (must also file any subsequent course changes)	After first committee meeting, but no later than the end of the second semester of enrollment
Turn in annual graduate student evaluation form	Usually due in March or April of each year
File "Statement of Intention to Graduate" at the Graduate School	During the semester of graduation (exact deadline varies)

Capstone Activity/Course or Schedule Final Oral Examination	During the final semester
Graduation	Target: 1 year

### Microbiology Non-Thesis-Master's Curriculum

#### Year 1 Fall Semester (12 credits)

Course	Credits
BIOL 6309 Adv Topics in Quantitative Biology	3
MBIO 5310 Foundations of Microbiologic Research	4
BIOL 61xx Responsible Conduct of Research	1
BIOL 6101 Recent Advances in Cell & Molecular Biology	1 (if not taken in Spring)
Micro Elective	3-4
<b>Fall Total</b>	<b>12</b>

#### Year 1 Spring Semester (12 credits)

Course	Credits
Biol 6101 Seminar Cell & Molecular Biology Presentations	1 (if not taken in Fall)
Technical Courses/Research	3-6
2-4 Micro Electives	5-12
<b>Spring Total</b>	<b>12</b>

#### Year 1 Summer (6 credits)

Course	Credits
Micro Electives	3-6
Technical Courses/Research	3-6
MBIO6301 Capstone Course	3
<b>Summer Total</b>	<b>6</b>
<b>Total</b>	<b>30</b>

### Required Courses

Under unusual or extenuating circumstances, the **Advisory Committee** may substitute other courses for these required courses. If the Capstone course is not completed, a final oral examination must be scheduled. Please note that course numbers are subject to change.

MBIO 5310 Foundations of Microbiologic Research (4)  
 BIOL 6309 Adv Topics in Quantitative Biology (3)  
 BIOL 61xx Responsible Conduct of Research (1)  
 BIOL 6101 Recent Advances in Cell & Molecular Biology (1)  
 MBIO 6301 Capstone Course(3)

### Leveling Courses

Leveling courses can be substituted on an 'as needed' basis when an outstanding student without a Micro background pursues this degree. However, it is generally expected that students already show mastery in these subjects.

BIOL 5301 Advanced Genetics (3)  
BIOL 5302 Advanced Cell Biology (3)  
BIOL 5305 Organic Evolution for Advanced Students (3)  
MBIO 5301 Advanced General Microbiology (3)

### Micro Electives

Other Micro electives or Technical courses may be approved by the Microbiology committee.

Piggy-back (cannot take if received credit for the undergraduate version of the course)

BIOL 5306. Advanced Cancer Biology (3)  
BIOL 5320. Advanced Molecular Biology (3)  
MBIO 5401. Current Perspectives in Microbial Ecology (4)  
MBIO 5403. Immunobiology (4)  
MBIO 5404. Pathogenic Microbiology (4)  
MBIO 5408. Microbial Genetics (4)  
MBIO 6367. Molecular Biology of Parasitism (3)  
BIOL 6100. Fungal Biology lab (1)  
BIOL 6301. Fungal Biology (3)  
BIOL 6301. Metagenomic Analysis (3)  
BIOL 6301. Frontiers in Metagenomics (3)  
BIOL 6301. Advanced Virology (3)  
BIOL 6301. Virology II (3)  
BIOL 6301. Biofilms (3)

### Stand alone

BIOL 5312. Cell and Molecular Biology for Teachers (3)  
BIOL 5303. Advanced Medical Entomology (3)  
BIOL 6202 Grad School Prep (2)  
BIOL 6301. Advanced Cell Biology II (3)  
BIOL 6301. Grant Development and Writing (3)  
BIOL 6301. Scientific Paper Writing (3)  
BIOL 6301. Mechanisms of Innate Immunity (3)  
BIOL 6305. RNA Silencing and Regulatory Small RNAs (3)  
MBIO 6302. Advanced Bacterial Physiology (3)

#### Technical Courses

BIOL 6301/6100. Flow Cytometry and Cell Sorting (4)

BIOL 6325. R as a Research Tool: Introduction to Programming (3)

BIOL 5303/6410. Advanced Experimental Molecular Biology (4)

BIOL 6430. Experimental Molecular Biology (4)

BIOL 6435. Advanced Experimental Cell Biology (4)

BIOL 7000 Research (max 6 credits)

GEOL 5304. Techniques in Electron Microscopy and Micro-Analysis (3)

## THESIS-MASTER'S PROGRAM

The Thesis-Master's degree programs in Biology and Microbiology are recommended for many students interested in a career in science, including research, teaching, and medicine. Participation in thesis research provides sophistication and insight into the workings of science beyond that available in formal course work, often facilitates the eventual pursuit of doctoral studies, and may also enhance employability through development of research skills. The student must complete at least **30 hours** of course credit beyond the Bachelor's degree, **6 hours** of which must be either BIOL6000, or MBIO6000 (Master's Thesis). Generally, students will have between 12 and 15 hours of classwork in the subject area, with the remaining hours being BIOL7000 (Research). Although the Graduate Catalog states that only 6 hours of BIOL7000 research can be applied toward the 30-hour total, that number is relaxed by the Graduate School for the Natural and Physical Sciences.

### Admission to the Master's Degree Program

Applications for admission into the Master's degree programs in Biology and Microbiology are considered and acted upon by the department's Graduate Student Selection Committee (GSSC). Currently, decisions to admit students are based upon:

- (1) the grade point average (GPA) over the last **60 hours** of undergraduate course work (for applicants who have or are about to receive a Bachelor's degree);
- (2) three favorable academic letters of recommendation;
- (3) in the case of **international students** for whom English is a second language, the scores for the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Duolingo
- (4) a Goals Statement. This statement (1–2 pages in length is sufficient) should be a specific and thoughtful explanation of the student's career goals and how an M.S. degree from Texas Tech University will contribute toward attaining those goals. Any prior experience with scientific research should also be described.

In addition to the above criteria, each student **must** identify a faculty member who has at least provisionally agreed to serve as the student's Major Advisor *before* the student is considered for admission into the Master's program. Students are urged to communicate directly with one or more faculty members whose research interests are most compatible with their own. Any student who does not gain admission initially is welcome to submit a new application after improving their credentials.

### Advisory Committee

As soon as possible, but **no later than the end of the second semester** of enrollment in the Master's degree program, the student will form an Advisory Committee in consultation with their Major Advisor. The Advisory Committee will meet with the student at least once a year to advise the student and assess their progress towards the Master's degree. The Committee determines course requirements, approves the thesis research proposal (should be filed within the first 18 months), and conducts the final oral examination and defense of thesis.



The Advisory Committee is a minimum of **three** Graduate Faculty members, including the Major Advisor who will serve as the Chairperson of the Committee. At least **two-thirds** of the Committee members (including the Chairperson) must be Graduate Faculty members in the Department of Biological Sciences. Adjunct faculty with appointments in DBS also count towards the two-thirds rule. For information about officially appointing the Advisory Committee, adding external members, and changing the Advisory Committee, see additional information in the [General Requirements](#) section of the Handbook.

#### Course Requirements and Responsible Academic Conduct Training

The student and Advisory Committee together will determine which courses must be taken to satisfy the M.S. degree requirements. The student is required to complete at least **30 credit hours** beyond the Bachelor's degree, **6 hours** of which must be thesis research (BIOL or MBIO 6000 Master's Thesis). In addition, all graduate students must take Prep Grad Learn Teach (BIOL 6202) and Biology Pedagogy (BIOL 5322) unless granted an exemption by the course Instructor of Record, Department Chair and Graduate Advisor. All new and continuing degree-seeking graduate students must also complete the U.S. National Science Foundation-mandated "Responsible Conduct of Research" training for students who conduct research on NSF grants. Separate training modules are available for different disciplines; for Biology students there is the course "Biological Science Responsible Scholarship." New students must complete training within their first year; returning students must complete training by November 16. Graduate students who do not complete the training by the deadline will have registration holds placed on their enrollment records. See <https://www.depts.ttu.edu/gradschool/training/responsible-academic-conduct-training.php> and <https://www.depts.ttu.edu/gradschool/training/CITIInstructions.pdf>

For a list of courses required for all Thesis-Master's students, see the [General Requirements](#) section above. Additional courses, including leveling and tools courses, may also be required on an individual basis as determined by the Advisory Committee and outlined in the [Degree Plan](#).

#### Deadlines and Time Limit

Although every effort will be made by both the Graduate Advisor and the Major Advisor to make the student aware of various University and Department regulations and deadlines, it is ultimately the student's responsibility to see that these regulations are adhered to and that the deadlines are met (see the accompanying checklist). All course work applied towards a Master's degree must be completed within **six calendar years** after admission into the graduate program. Non-traditional students needing an exception to this time limit will send a letter to the GSAC or chair detailing the need for an exception.

#### TA Support

Typically, Thesis-Master's students are supported by TAs during the long (Spring and Fall) semesters. Thesis-Master's students receiving more than 6 semesters of support have lower priority for TAs and may not be guaranteed TA support.

#### Degree Plan

All Master's students must submit a "Master's Degree Plan and Admission to Candidacy" form to the Graduate School. This form should be filled out in coordination with the Advisory Committee,

typically at the student's first Advisory Committee meeting. The Degree Plan should be signed by the Major Advisor and submitted to the DBS Graduate Program Coordinator. The DBS Graduate Advisor may review the Degree Plan and give approval to submit to the Graduate School. Degree Plans should be submitted as soon as possible but **no later than the second semester** of enrollment in the Master's degree program. The Graduate Catalog should be consulted for any additional requirements that must be met before Admission to Candidacy is granted.

All requested information must be filled in on the form, including expected graduation date (month and year), thesis title or (if not yet known) area of thesis research, and all members of the Advisory Committee. Subsequent changes in the degree plan must also be approved by the Advisory Committee and filed with the Graduate School.

Students are expected to register for a number of course hours commensurate with anticipated level of effort in their graduate studies. Except for non-traditional students or in unusual circumstances, all students who are seriously pursuing graduate degrees will be enrolled full time. Full-time enrollment is normally 9 hours in a regular semester and 3 hours in the summer session. For students on fellowships, Teaching or Research Assistantships, or other appointments that require duties other than course work and research, full-time enrollment is normally **9 hours** in a regular semester and **3 hours** in each summer session (i.e., 24 hours per calendar year). Students must maintain their full-time status even if they are devoting all their time to research.

Students who are working on a thesis and who have begun enrollment in BIOL6000 or MBIO6000 (Master's Thesis) must meet a continuous enrollment requirement in this course, which consists of both regular semesters and at least one summer session until all degree requirements have been completed. A student who is completing a thesis but who is no longer on campus may satisfy the continuous enrollment requirement by registering for one hour in each regular semester and at least one summer session with the permission of the department until the final semester. Students must enroll for at least 3 hours in the semester of the thesis defense. If the student has defended in the previous semester but past the Graduate School deadline, they may register for one hour in the subsequent semester. The Graduate School should be consulted for specific information about these options.

The student and their Advisory Committee will decide together what courses are listed on the degree plan. Typically, Thesis-Master's students will take 1 or 2 courses each of the first four long semesters (fall and spring) with the remaining credits coming from BIOL7000 independent research. Under the Major column, list all of the courses that are taken to complete the M.S. degree requirements in the major subject area, including BIOL 6202. All graduate (5000 and 6000)-level courses with BIOL, BOT, MBIO, and ZOOL prefixes are considered as major courses. Formal courses are listed only by prefix and number without a title, e.g., BIOL 5320. For individual study courses or courses that can be repeated for additional credit (e.g., BIOL 6100, BIOL 6101, BIOL 6301, and BIOL 6309), different sections or specific titles should also be listed to indicate that the course does not have the same content each time it is taken. Typically, between **11 and 15 credit hours of BIOL7000** - Research can be included on the thesis M.S. degree plan. If the student desires, two or three courses in a subject area outside of the major can be designated as a minor and listed under the Minor column. However, this is entirely optional.

At least six hours of BIOL6000 or MBIO6000 Thesis must also be taken (for a **total of 30 hours**) to complete the thesis M.S. degree. Typically, a student will enroll in three hours of BIOL6000 in each of their last two semesters. A minimum of **12 credit hours** of coursework (exclusive of BIOL6000 or MBIO6000) must be listed on the degree plan. Undergraduate courses cannot be counted toward the Master's degree. Tool, Language, or Leveling courses are listed **only** if required by the Advisory Committee. Up to 6 hrs of course work may be transferred from another institution for the Master's degree.

The completed form must be signed by the Major Advisor and submitted to the DBS Graduate Program Coordinator. The Degree Plan may be reviewed by the DBS Graduate Advisor before it is uploaded to the Graduate School by the Graduate Program Coordinator.

Changes may be made to the Degree Plan after submission. These must be submitted, with the approval of the Major Advisor, to the DBS Graduate Program Coordinator.

### Graduation: Additional Requirements

During the semester of intended graduation, a "Statement of Intention to Graduate" must be filed at the Graduate School, and payment of the ETD document processing fee and all other required fees must be posted to the student's University bill. Since exact dates for these requirements vary with the semester, the current "Graduation Deadlines" posted on the Graduate School web site should be consulted.

### Research Proposal

In consultation with their Major Advisor and Advisory Committee members, the student will develop a written thesis research proposal by the **end of the student's third semester**. This document will include an abstract, research plan, and supporting data. Generally, a document of 5–8 pages in length is sufficient. Copies of the proposal should be submitted to each Committee member two weeks prior to a Committee meeting to give the proposal formal consideration. At this meeting, the student will make an oral presentation of the proposed research and will receive suggestions for improvements. The revised version of the proposal should then be submitted to the Committee members for final approval. A copy of the proposal cover page, signed by all Committee members, must be delivered to the DBS Program Coordinator. The Advisory Committee is to be informed of major changes in the research and may require submission of a new thesis proposal if a drastic change, such as an entirely new project or research goals, is contemplated.

### Master's Thesis

The Master's thesis represents original research conducted by the student under the direction of their Major Advisor and Advisory Committee. It is to be written clearly and concisely in correct English. The required format for the thesis is described in the "Thesis/Dissertation Formatting Guidelines," which is available as a pdf file on the Graduate School web site.

After being approved by the Major Advisor, a completed version of the thesis (not necessarily the final one) will be given to all other members of the Advisory Committee **at least three weeks prior** to the anticipated date of the final oral examination and defense of thesis. Within **one week**, the Committee members will determine whether the thesis is defensible. "Defensible" means that

it is structurally sound, based on the criteria for articles in a quality journal in the field of study, and that the Committee can assess the validity of the presented research. “Defensible” does not mean that the Committee members approve of the scientific content of the thesis or will pass the student in the thesis defense. If the thesis is judged defensible, then the defense can go forward as scheduled. If one or more Committee members do not find the thesis to be defensible, or if they perceive any major flaws in the methodology, analysis, or interpretation of data, these problems should be communicated to the Major Advisor and graduate student within the one-week period. Any disputes that cannot be resolved will be taken for arbitration first to the DBS Graduate Advisor and then, if necessary, to the DBS Chairperson.

### Final Oral Examination and Defense of Thesis

Before earning the M.S. degree, each Thesis-Master's student must pass a final oral examination and defense of thesis. After the Advisory Committee has judged that the thesis is in a defensible form, the graduate student may then set a date for the examination and defense with the approval of all Committee members, which must be scheduled at least **three weeks** in advance. Thus, the student should plan to deliver the **Major Advisor**-approved version of the thesis to the other Committee members at least four weeks before the student intends to defend. In scheduling the examination and defense, students should be aware that the final, Committee-approved copy of the thesis, signed Thesis-Dissertation Oral Defense Approval Form, and Electronic Thesis-Dissertation (ETD) Signature Form must be turned in to the Graduate School within **two weeks** of the defense **AND no later than the date** in the “Graduation Deadlines” posted on the Graduate School web site. Sufficient time should be allowed before this deadline to make all necessary revisions to the thesis. Students should also understand that faculty members may not be available for a thesis defense during the summer.

The examination and defense are administered by the student’s Advisory Committee. The student is expected to deliver a concise and well-organized presentation covering the salient points of the thesis, stressing its contribution(s) to scientific knowledge. This presentation and following question-and-answer session is open to all faculty, graduate students, and others who care to attend. Afterwards, the student will meet privately with the Advisory Committee for a more in-depth discussion of the merits and weaknesses of the thesis and further oral examination. As soon as possible after the examination and defense, the Major Advisor will report the results to the Dean of the Graduate School.

Satisfactory performance by the student is indicated by a majority affirmative vote of the Committee members. A student who fails the examination and defense may repeat it once, but only after an interval of four months or more. In the event of failure, the Major Advisor will provide the student with a written summary of the perceived deficiencies and corrective actions that need to be taken before making the second attempt.

### Switch to Non-Thesis-Master's

In some circumstances a student will be unable to complete a thesis. In this case, they may opt to change their degree to a Non-Thesis-Master's. They would need to form an Advisory Committee that may be the same or different as the thesis committee, file an amended degree plan and schedule the final comprehensive evaluation if they have enough credits.

### Thesis-MS Checklist

Students are responsible for seeing that all deadlines are met.

Item	Date or Deadline
Choose Major Advisor	Prior to entry into the graduate program
Annual departmental graduate student meeting	Week before classes begin in the fall semester
Plan courses for first semester: BIOL 6202 (Preparation for Graduate Learning and Teaching in Biology; fall) and BIOL 5322 (Biological Pedagogy; spring) are required during first enrollment	Week before classes begin in each term
Set up and meet with Advisory Committee	During first semester of enrollment
File degree plan ("Program for the Master's Degree and Admission to Candidacy" form) at the Graduate School: at least 30 hours of graduate course work including 6 hours of BIOL 6000, or MBIO 6000, 0 (Master's Thesis) is required (must also file any subsequent course changes)	Preferably after first committee meeting, but no later than the end of the second semester of enrollment
Present thesis research proposal to the Advisory Committee	As soon as possible after filing the degree plan but no later than the end of the third semester of enrollment
Turn in annual graduate student evaluation form	Due by August each year, but can be submitted after the annual Advisory Committee meeting
Annual Committee Meetings	Students should meet with their Advisory Committee at least once per year

File "Statement of Intention to Graduate" at the Graduate School	During the semester of graduation (exact deadline varies)
Submit a completed version of the thesis to all Advisory Committee members for review	At least three weeks before the anticipated thesis defense
Obtain approval of all Advisory Committee members to schedule the thesis defense and submit Defense Notification Form	During the semester of graduation (exact deadline varies)
Pay Electronic Thesis Dissertation (ETD) processing fee	During the semester of graduation (exact deadline varies)
Take Final Examination and Defense of Thesis (Major Advisor reports the result to the Graduate School)	During the semester of graduation (exact deadline varies)
Submit thesis for formatting review; turn in signed Thesis-Dissertation Oral Defense Approval Form and ETD Signature Form to the Graduate School	During the semester of graduation (exact deadline varies)
Upload corrected, final version of thesis to the ETD Submission web site	During the semester of graduation (exact deadline varies)
Graduation	Target: two to three years

## DOCTORAL (Ph.D.) PROGRAM

The Department of Biological Sciences offers doctoral degree programs in Biology for students who want to prepare for research-oriented careers in the life sciences. Making a contribution to scientific knowledge through original research is often the most satisfying aspect of a student's graduate experience. All doctoral students are strongly encouraged to begin their research as soon as they undertake their graduate studies.

The Graduate School has mandated the following requirements for the Ph.D. degree.

- (1) The student must complete at least **72 hours** of course credit beyond the Bachelor's degree, 12 of which must be Dissertation research (BIOL 8000 Doctor's Dissertation). If the student wishes to declare a minor, at least 45 hours are required (including BIOL7000) in the major subject area and 15 hours of coursework in the minor subject area.
- (2) The student must pass a [Qualifying Examination](#), generally consisting of a series of comprehensive written exams followed by an oral exam.
- (3) The student must complete a Dissertation that meets Graduate School specifications and make an [oral Defense](#) of a substantial research investigation described in the doctoral Dissertation. The Advisory Committee and the Dean of Graduate School must approve the subject of the Dissertation at least four months before the candidate's proposed date of graduation; often this takes the form of a successfully defended [Dissertation proposal](#) (a pre-requisite for taking the Qualifying Exam).

### Admission to the Doctoral Program

All applications for admission into the doctoral programs in Biology and Zoology are evaluated and voted upon by the Graduate Student Selection Committee (GSSC). A Master's degree is preferred as a credential for entry into the doctoral program, but students with outstanding undergraduate records may be admitted directly. Decisions to admit students are based upon the following criteria:

1. the grade point average (GPA) over the last **60 hours** of undergraduate course work (for applicants who have or are about to receive a Bachelor's degree) and any formal graduate course work that has already been taken (for applicants who have or are about to receive a Master's degree);
2. **three** favorable academic letters of recommendation;
3. in the case of **international students**, for whom English is a second language, the scores for the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo
4. a Goals Statement. This statement (**1–2 pages** in length is sufficient) should be a specific and thoughtful explanation of the student's career goals and how a doctoral degree from Texas Tech University will contribute toward attaining those goals. Any prior experience with scientific research should also be described.

In addition to the above criteria, each student must identify a faculty member who has at least provisionally agreed to serve as the student's Major Advisor before the student is considered for admission into the doctoral program. Students are urged to communicate directly with one or more faculty members whose research interests are most compatible with their own. Any student who does not gain admission initially is welcome to submit a new application after improving their credentials.



### Academic Standing in the Program

A student who is on schedule for completion of the degree program (see the accompanying checklist) and who maintains a **GPA of at least 3.0** is considered in good academic standing, unless the student receives the grade of **“C” in six or more hours** of any courses used to satisfy the degree plan (listed on the “Doctoral Degree Plan” form – see the “Degree Plan” section of this handbook), or a grade of **“D” or “F” in any graduate course**.

Once each year (by August), all graduate students are required to complete an [Annual Evaluation](#) form reporting on accomplishments from the past year and goals for the next year. The Annual Evaluation is written in coordination with the student’s Advisory Committee and is also submitted to the TTU Faculty Success site. The Graduate Student Affairs Committee (GSAC) uses this form to assess the progress and academic standing of each graduate student. Students who are not making adequate progress or who fall from good academic standing may be referred to the Chairperson of the Department for review and possible loss of Teaching Assistantship or dismissal from the graduate program.

### Required Courses and Responsible Academic Conduct Training

An essential part of the graduate experience is to raise awareness of professional standards of research ethics, integrity, and safety, and of challenges that students may face throughout their careers. The Grad School in collaboration with the Office of Research and Innovation has developed a responsible scholarship training that addresses academic practices such as data management, intellectual property, management of conflict of interest, ethical use of humans and animals in research, social responsibility of research, effective collaboration, and research misconduct. This training is required for all new and continuing degree-seeking graduate students and meets the U.S. National Science Foundation-mandated “Responsible Conduct of Research” training for students who conduct research on NSF grants. Separate training modules are available for different disciplines; for Biology students there is the course “Biological Science Responsible Scholarship.” New students must complete training within their first year; returning students must complete training by November 16. Graduate students who do not complete the training by the deadline will have registration holds placed on their enrollment records. See <https://www.depts.ttu.edu/gradschool/training/responsible-academic-conduct-training.php> and <https://www.depts.ttu.edu/gradschool/training/CITIInstructions.pdf>

The student and Advisory Committee together will determine which courses must be taken to satisfy the doctoral degree requirements. The student is required to complete at least **72 credit hours** beyond the Bachelor’s degree, **12 hours** of which must be Dissertation research (BIOL8000 Doctor’s Dissertation). Typically, students enroll for six hours of BIOL8000 in each of their last two semesters if graduating in the spring or fall.

In addition, the two specific courses [mentioned in the General Requirements](#) are required of all graduate students wanting to teach in the Department of Biological Sciences unless granted an exemption by the Instructor of Record, Department Chair and Graduate Advisor.

Additional courses may also be required on an individual basis as determined by the Advisory Committee, including leveling courses and tools courses. See the [General Requirements section on course requirements](#) for full details.



### Advisory Committee

As soon as possible, but **no later than the second semester** of enrollment in the doctoral degree program, the student will form an Advisory Committee in consultation with their **Major Advisor**. This Committee is a minimum of **five** Graduate Faculty members, one of them being the Major Advisor who will serve as the Chairperson of the Committee. At least **three-fifths** of the Committee members, including the Chairperson, must be Graduate Faculty members in the Department of Biological Sciences (this may include Adjunct Faculty). Except in special cases approved by the Graduate Dean, only Graduate Faculty may serve on Thesis and Dissertation Committees. See the [General Requirements](#) for additional information for the approval of external committee members (faculty at different institutions).

The Advisory Committee will meet with the student at least **once a year** to advise the student and assess their progress towards the doctoral degree. The Committee determines course requirements, approves the Dissertation research proposal which should be submitted within the first 24 months, administers the written and oral Qualifying Examinations, and conducts the Final examination and Dissertation defense.

Occasionally, it may become necessary for a student to change the composition of their Advisory Committee following the [guidelines outlined in the general section](#).

### Preliminary Diagnostic Examination

The student's Major Advisor or Advisory Committee may require the student to pass a preliminary examination in the major and minor fields of the degree program to facilitate evaluation and counseling of the student. This examination is almost never administered in Biological Sciences but is listed in the Graduate Catalog. If required, the Major Advisor will coordinate the administration of the examination, which may be either written or oral and should be taken as soon as possible but no later than the student's second semester of enrollment in the graduate program.

### Enrollment for Ph.D. Degree

All graduate students are required to register for appropriate courses in **every** semester or summer session in which they expect to receive financial assistance, use the facilities of the University and faculty time, or take comprehensive examinations. If enrollment is interrupted during the summer, the student may be required to pay additional fees upon re-enrollment in the following fall semester.

Students are expected to register for a number of course hours commensurate with the anticipated level of effort in their graduate studies. Except in unusual circumstances, all students who are seriously pursuing graduate degrees will be enrolled full time. For students on fellowships, assistantships, or other appointments that require duties other than course work and research, full-time enrollment is normally **9 hours** in a regular semester and **3 hours** in each summer session (i.e., 24 hours per calendar year). Students must maintain their full-time status even if they are devoting all their time to research.

The Graduate School requires all doctoral students to satisfy a residence requirement that consists of full-time enrollment for at least two consecutive semesters. For the purposes of this residence requirement, both summer sessions are considered equivalent to one regular semester.

Students who are working on a Dissertation and who have begun enrollment in BIOL8000 Doctor's Dissertation must meet a continuous enrollment requirement in this course, which consists of both regular semesters and at least one summer session until all degree requirements have been completed. A student who is completing a Dissertation but who is no longer on campus may satisfy the continuous enrollment requirement by registering for one hour in each regular semester and at least one summer

session with the permission of the Department until the final semester, at which time the student must enroll for at least 3 hours. The Graduate School should be consulted for specific information about these options.

### Degree Plan

No later than the **second semester** of enrollment in the graduate program, the student must file a “Doctoral Degree Plan” form (Degree Plan) at the Graduate School. The Degree plan is typically a main topic of the student’s first meeting with their Advisory Committee.

All requested information must be completed, including expected graduation date (month and year), Dissertation title or (if not yet known) area of Dissertation research, and all members of the [Advisory Committee](#). If a proposed member of the Committee is at an institution other than Texas Tech University or the TTU Health Sciences Center, the Graduate School must be provided with their curriculum vitae. In general, the person’s academic credentials should be equivalent to those of a Graduate Faculty member at Texas Tech University. The student and their Advisory Committee will decide together what courses are listed on the degree plan.

Typically, Doctoral students will take 1 or 2 courses each of the first four long semesters (fall and spring) with the remaining credits coming from BIOL7000 independent research. Under the Major column, list all the courses that are taken to complete the doctoral degree requirements in the major subject area, including BIOL 6202 and BIOL 5322 (pedagogy course) unless granted an exemption. All graduate (5000 and 6000)-level courses with BINF, BIOL, BOT, MBIO, and ZOOL prefixes may be considered as major courses. Formal courses are listed only by prefix and number without a title, e.g., BIOL 5320. For individual study courses or courses that can be repeated for additional credit (e.g., BIOL 6100, BIOL 6101, BIOL 6301, and BIOL 6309), different sections or specific titles should also be listed to indicate that the course does not have the same content each time it is taken. Approval of more than ~50 hours of BIOL 7000 may be granted on a case-by-case basis. If the student desires, at least 15 hours in a subject area outside of the major can be designated as a minor and listed under the Minor column. However, this is entirely optional.

The degree plan should contain a minimum of **72 credit hours** (e.g., ~40 hours of formal coursework, ~20 hours of BIOL7000), and the 12 hours of BIOL8000 Doctor’s Dissertation. Typically, students take six hours of BIOL8000 in each of their final two semesters. Undergraduate courses cannot be counted toward the doctoral degree. Tool, Language, or Leveling courses are listed only if required by the Advisory Committee/or to meet English Proficiency requirements based on the SPEAK test administered to international students.

If the student wishes to receive transfer credit for graduate courses taken at another institution, the course prefixes and numbers on the student’s transcript from that institution must be listed as well as the equivalent graduate courses at Texas Tech University. The student should be prepared to provide the Graduate Advisor and the Graduate School with copies of the transcript. Up to 12 hours of course credit can be transferred.

If the student has already earned a Master’s degree, either from Texas Tech University or another accredited institution, the Graduate School will accept up to 30 credit hours of course work taken at the Master’s level for transfer to the doctoral degree. However, transfer credit is **not** given for BIOL6000 Master’s Thesis (or equivalent courses at other institutions).

The completed Degree Plan must be signed by the Major Advisor before it is submitted to the DBS Graduate Program Coordinator, indicating that the Degree Plan has the approval of the Advisory Committee. The DBS Graduate Advisor may review the Degree Plan before it is submitted to the Graduate School.

### Research Proposal

In consultation with their Major Advisor and Advisory Committee members, the student will develop a written Dissertation research proposal no later than the end of the 2<sup>nd</sup> year of enrollment. This document will include an abstract, research plan, supporting data, and budget. Generally, a document of 8–10 pages in length is sufficient. Copies of the proposal should be submitted to each Committee member **two weeks** prior to a Committee meeting to give the proposal formal consideration. At this meeting, the student will make an oral presentation of the proposed research and will receive suggestions for improvements. The revised version of the proposal should then be submitted to the Committee members for final approval. A copy of the proposal cover page, signed by all Committee members, must be delivered to the DBS Graduate Program Coordinator. The Advisory Committee is to be informed of any major changes in the research and may require submission of a new Dissertation proposal if a drastic change, such as an entirely new project or research goals, is contemplated.

### Qualifying Examination

The Qualifying Examination for Admission to Candidacy follows the Advisory Committee approval of the Research proposal and is a formal evaluation of the student's ability to consolidate, synthesize, and apply the formal knowledge that the student has gained in the major and (if applicable) minor subject areas. Students must take this examination within one calendar year of completing all requirements listed on the degree plan.

#### Written Format 1: Exam Week

The Advisory Committee prepares and administers the Qualifying Examination, which consists of both written and oral components. Each Committee member will prepare a separate written examination. Under the supervision of the Major Advisor, all the written examinations will be taken by the student during a period of one week (Monday–Friday). The Oral Examination must then be held within two weeks after completion of the written examinations.

#### Written Format 2: Grant Proposal

At the discretion of the Advisory Committee the Qualifying Examination can be administered in the form of a grant proposal written by the student on a topic agreed upon by the Committee and the student. This proposal will be in the format of an NIH, NSF or USDA proposal and will be in an area that is peripheral to the student's doctoral research proposal (that is it cannot be the dissertation research). It will be submitted to the Committee and 2-3 weeks later there will be an oral examination based on the research area discussed in the proposal.

### Oral Exam and Results

The student's performance on both the written and the oral components of the qualifying examination (regardless of the exam format) must be approved by at least **a majority** of the Committee members before the student may be recommended for Admission to Candidacy for the doctoral degree.

The Major Advisor should inform the DBS Graduate Program Coordinator about the results of the written and oral Qualifying Exams. On behalf of the Advisory Committee, the DBS Graduate Program

Coordinator will complete the “Qualifying Exam and Report” and submit it to the Graduate School after the student successfully completes the qualifying examination.

If the results of the examination are unsatisfactory, the Major Advisor will notify the DBS Graduate Program Coordinator in writing, who will also inform the Dean of the Graduate School. In the event of failure, the Major Advisor will also provide the student with a written summary of the perceived deficiencies and corrective actions that need to be taken before making another attempt. A student may repeat the Qualifying Examination once, but only after an interval of **at least four months and not more than 12 months** from the date of the first attempt. Failure to pass the Qualifying Examination a second time will result in dismissal from the graduate program.

### Admission to Candidacy

If the Qualifying Examination is considered satisfactory and other requirements have been completed (e.g., leveling courses, language and research tool courses, and BIOL 6202 and Biological Pedagogy – BIOL 5322), the DBS Program Coordinator, on behalf of the Advisory Committee, will send a letter promptly to the Dean of the Graduate School recommending that the student be admitted to candidacy. The letter will include the date of the oral examination. If an official minor has been designated, then the letter must indicate whether or not the student passed both the major and minor portions of the exam. The Advisory Committee recommendation will then be submitted to the Graduate Council by the Dean of the Graduate School. The Graduate Council might approve the Advisory Committee’s recommendation or, after consultation with the Committee, it might suggest additional requirements that the student must satisfy.

A student must be admitted to candidacy for the doctoral degree at least **four months** prior to the proposed graduation date. That is, a student cannot take their qualifying exam and dissertation defense in the same semester.

The semester after candidacy is achieved, the student will receive a \$1000 per academic year increase in their stipend. That salary increase will continue throughout the remainder of their doctoral studies up to the five-year limit.

### Doctoral Dissertation

The doctoral Dissertation represents substantive, original research conducted by the student under the direction of their Major Advisor and Advisory Committee. It must be written clearly and concisely in correct English. The required format for the dissertation will be evaluated by the Graduate School.

### Final Examination and Dissertation Defense

Before earning the doctoral degree, each doctoral student must pass a Final oral examination and defense of the Dissertation. After the Advisory Committee has judged that the Dissertation is in a defensible form, the graduate student may then set a date for the examination and defense with the approval of all Committee members, which must be scheduled at least **three weeks** in advance. Thus, the student should plan to deliver the Major Advisor-approved version of the Dissertation to the other Committee members at **least four weeks** before the student intends to defend.

The student must also file the “Doctoral Defense Notification Form” at the Graduate School. In scheduling the examination and defense, students should be aware that the final, Committee-approved copy of the Dissertation, signed Thesis-Dissertation Oral Defense Approval Form, and Electronic Thesis-Dissertation (ETD) Signature Form must be turned in to the Graduate School within **two weeks**

of the defense or **no later than the date** in the “Graduation Deadlines” posted on the Graduate School web site. Sufficient time should be allowed before this deadline to make all necessary revisions to the Dissertation. Students should also understand that faculty members may not be available for a Dissertation defense during the summer.

The examination and defense are administered by the student’s Advisory Committee and in the presence of a Representative appointed by the Dean of the Graduate School (“Dean’s Rep”). The student is expected to deliver a concise and well-organized presentation covering the salient points of the Dissertation, stressing its contribution(s) to scientific knowledge. This presentation and following question-and-answer session is open to all faculty, graduate students, and others who care to attend. Afterward, the student will meet privately with the Advisory Committee and Graduate Dean’s Representative for a more in-depth discussion of the merits and weaknesses of the Dissertation and further oral examination. As soon as possible after the examination and defense, the Major Advisor will report the results [via Dynamic Forms](#). Satisfactory performance by the student is judged by a **majority** affirmative vote of the Advisory Committee members. In the event of failure, the Graduate School does not ordinarily permit the student to repeat the Final Examination and defense.

#### Graduation: Additional Requirements

During the semester of intended graduation, a “Statement of Intention to Graduate” must be filed at the Graduate School, and payment of the ETD document processing fee and all other required fees must be posted to the student’s University bill. Since exact dates for these requirements vary with the semester, students should consult the current “Graduation Deadlines” posted on the Graduate School web site.

#### Maximum Allowable Doctoral Hours

The Texas Legislature has capped State-funded financial assistance for graduate study at 99 doctoral hours (that’s four years of fulltime study past the Master’s degree) for most programs and may impose sanctions upon universities permitting registration for excess hours. Graduate students with more than 99 doctoral hours are required to pay out-of-state tuition, regardless of residence status. The maximum time allowed for completing the doctoral degree is eight years from the first semester of doctoral enrollment or four years from admission to candidacy, whichever comes first.

To avoid these infractions, the Graduate School has adopted several policies to manage graduate enrollment. The Graduate School will initiate a formal review of all doctoral students who are approaching the 99-hour limit, and these students must present a plan for prompt completion of the doctoral degree. **Any student who has exceeded 99 doctoral hours is strongly encouraged to contact the Graduate School and make certain of all requirements pertaining to continued enrollment.** Students not making timely progress toward completion of the doctoral degree are subject to termination by the Dean of the Graduate School. Accumulation of excess hours while failing to complete the degree constitutes unsatisfactory progress.

#### Deadlines and Time Limit

Although every effort will be made by both the Graduate Advisor and the **Major Advisor** to make the student aware of various University and Department regulations and deadlines, it is ultimately the student’s responsibility to see that these regulations are adhered to and that the deadlines are met (see the accompanying checklist).

At least four months must intervene between the Qualifying Examination and the Final examination and Dissertation defense. All work for the doctoral degree must be completed within eight consecutive calendar years or four calendar years from admission to candidacy, whichever comes first.

### Professional Conduct in Teaching and Research

All graduate students are expected to maintain the highest standard of professional ethics in the conduct of their research. Plagiarism, selective and inappropriate manipulation of experimental data to achieve desired outcomes, and outright falsification of data all constitute scientific fraud. Such conduct will not be tolerated and provides sufficient cause to dismiss the student from the graduate program.

All original research data collected by the graduate student must remain permanently with the laboratory where the work was done. No record of the data, including research notebooks and computer files, may be removed from the laboratory without the written consent of the Major Advisor. In return, the graduate student is given the opportunity to publish these data in a timely manner.

### Doctoral Program Checklist

Students are responsible for seeing that all deadlines are met.

Item	Date or Deadline
Choose Major Advisor	Prior to entry into the graduate program
Departmental graduate student meeting	Week before classes begin in the fall semester
Plan courses for first semester: BIOL 6202 (Preparation for Graduate Learning) and BIOL 5322 (Teaching in Biology) is required during first possible enrollment	Week before classes begin
Set up and meet with Advisory Committee	Before end of second semester of enrollment
Take preliminary examination (if required by the Advisory Committee)	During first semester of enrollment
File degree plan ("Doctoral Degree Plan" form) at the Graduate School: at least <b>72 hours</b> of graduate course work including 12 hours of BIOL 8000 (Doctor's Dissertation) is required (must also file any subsequent course changes)	As soon as possible but no later than the end of the second semester of enrollment

Present Dissertation Research Proposal to the Advisory Committee	As soon as possible after filing the degree plan but no later than the end of the second year of enrollment
Turn in annual graduate student evaluation form	Usually due in August of each year, but can be submitted after each annual committee meeting
Take written and oral Qualifying Examination (Major Advisor reports the result to the Graduate Program Coordinator)	No later than end of the third year of enrollment
File "Statement of Intention to Graduate" at the Graduate School	During the semester of graduation (exact deadline varies)
Submit a completed version of the Dissertation to all Advisory Committee members for review	At least four weeks before the anticipated Dissertation defense
Obtain approval of all Advisory Committee members to schedule the Dissertation defense	During the semester of graduation (exact deadline varies)
File "Doctoral Defense Notification Form" at the Graduate School	At least three weeks prior to the scheduled defense date
Pay Electronic Thesis Dissertation (ETD) processing fee	During the semester of graduation (exact deadline varies)
Take Final Examination and Dissertation Defense (Major Advisor reports the result to the Graduate School via Dynamic Forms)	During the semester of graduation (exact deadline varies)

Submit Dissertation for formatting review; turn in signed Thesis-Dissertation Oral Defense Approval Form and ETD Signature Form to the Graduate School	During the semester of graduation (exact deadline varies)
Upload corrected, final version of Dissertation to the ETD Submission web site	During the semester of graduation (exact deadline varies)
Graduation	Target: five years



## Frequently Asked Questions

### Financial Matters

*1. Is there a limit to the number of semesters that I can receive financial support from the Department as a Teaching Assistant (TA), Graduate Assistant (GA), or as a Research Assistant (RA)?*

A student who is in good standing academically, making appropriate progress toward completion of their degree as determined by the timely completion of required paperwork, annual progress reports, cumulative GPA > 3.0, and adequate performance evaluations in prior TA assignments will have priority TA in the assignment of a TA position (also see below).

RA support is at the discretion of the Major Advisor.

The maximum number of semesters that one can have a TA or RA depends on the time limit for a degree, and maintenance of good academic standing. Master's students will be supported during the Fall and Spring Semesters for up to three years, and Ph.D. students for up to 5 years. Summer support is considered separately, but likewise limited to the first three or 5 summers in the program (if available; summer budgets are determined by the university administration separately each academic year). Extensions for TAsip appointments beyond these time limits are reviewed by the Graduate Advisor and Department Chair with input from the student's Advisory Committee and are determined based on departmental and student need. Doctoral students are encouraged to apply for a Graduate School Doctoral Dissertation Completion Fellowship after they advance to candidacy (see details under the Doctoral Program section of the Handbook. Students must be nominated Nov 15- Jan. 15<sup>th</sup> by their Major Advisor and endorsement of the department Chair to compete for this one year award. See <https://app.smarterselect.com/prograM.S./59965-Texas-Tech-Graduate-School>.

*2. Is there a ranking system to determine which graduate students receive financial support?*

The number of TA-ships available each semester varies slightly based on curricular needs. In cases where there are more students requesting support than classroom sections needing TAs, the department does use a ranking system to assign students to classes. All other factors being equal, preference is towards support of Ph.D. students over Thesis-based M.S. students; with Non-Thesis M.S. students ranking below both. In addition, the department makes an effort to spread TA-ships across faculty labs and prioritizes support for students of junior faculty over those of senior faculty. Students who have received poor teaching evaluations in prior semesters are ranked lower than those that receive good evaluations. In the absence of extenuating circumstances M.S. students that have already received **3 years** of support and Ph.D. students that have already received **5 years** of support will have the lowest priority

*3. What is the possibility of receiving summer support from the Department?*

A limited number of TA positions are available during the summer. In recent years, the Department has tried to provide a TA or RA to every graduate student who needs one for at least one of the two summer sessions. However, the extent to which this remains possible will depend

on the size of the annual budget, summer school course offerings by the department, and ad hoc summer budget adjustments by the administration.

*4. If I am being paid as an RA or TA and I interrupt or terminate my degree program in mid-semester, am I effectively breaking a binding contract with my Major Advisor or with the Department?*

Yes. Your assistantship, as stipulated in your offer letter, has a fixed appointment period, usually 2 long semesters (Fall and Spring). Once you accept a TA-ship or GA-ship, you may request that your appointment be terminated prior to its expiration. However, the time for termination must be agreed upon by both you, your supervisor, and the Departmental Chairperson. If a replacement cannot be found to meet your teaching obligations, you may be required to complete your contract. Students who do refuse to complete their contract, if needed, will not be offered additional TA support unless exceptional circumstances were in effect.

If you are offered an RA-ship by your major professor, how you complete your assigned duties is up to the discretion of your major professor.

### Leaves of Absence

*1. Can I take a leave of absence from the University (or Department) while my degree program is in progress? If so, under what circumstances is a leave of absence granted?*

Leaves of absence are granted only for exceptional personal or professional circumstances that would severely hamper the student's ability to continue working toward completion of the degree. Examples would include a family crisis, extended serious illness, or financial catastrophe. Normally, leaves of absence will not exceed one year and do not extend the maximum time allowed for completion of the degree. Requests should be submitted through the Graduate School Enrollment Services portal. Each request for a leave of absence requires a letter from the student explaining the need for a leave and supporting letters from each member of the student's Advisory Committee. The case is then reviewed by the Graduate Student Affairs Committee and the departmental chairperson. If a decision in favor of the student's request is made, a recommendation is sent to the Graduate Associate Dean for Student Affairs, who makes the final decision. Should a student wish to appeal a negative decision, the issue should be discussed with the chairperson, who can advise him or her of the proper procedures to follow. When granted, leaves of absence normally do not exceed one year.

*2. Should I request a leave of absence if I anticipate being away from my employment duties for a short time, such as for the birth of a child, scheduled surgical procedure, etc.?*

It is unnecessary to request a formal leave of absence when the duration of an anticipated absence from employment duties will be short (a few days or weeks). However, you must be proactive and make appropriate arrangements for any such absence **in advance** with your Major Advisor (RA) or with the course coordinator and departmental chairperson (TA).

*3. If I interrupt my graduate studies for an extended period of time, how does this affect my standing in the graduate program when I return?*

If a student has received a leave of absence from the Graduate School, there is no change in their standing upon return. If the student takes an unauthorized leave and fails to maintain continuous enrollment, the student must apply for readmission to both the Graduate School and to the Department. In addition, once a student has started taking BIOL/MBIO 6000 Master's Thesis or BIOL 8000 Doctoral Dissertation, the student must continue to enroll in it every fall and spring semester and at least once each summer for at least one hour until graduation. **Graduate students may start taking the BIOL 6000 generally after completing 15 hours of coursework and BIOL 8000 courses after successfully passing the Qualifying Examination for the Ph.D.**

### Major Advisor/Advisory Committee

*1. What should I do if I have a disagreement with my Major Advisor (major professor) concerning the composition of my Advisory Committee?*

The Advisory Committee consists of Graduate Faculty members chosen together by the Major Advisor and the graduate student. A serious disagreement about the composition of the committee could lead to problems during the conduct of the research. The student and Major Advisor should first try to resolve the situation themselves. Failing that, the departmental Graduate Advisor or Chairperson may be asked to serve as a mediator in such a dispute. However, if the dispute is irreconcilable, the student should consider asking another professor to serve as their Major Advisor.

*2. Can I switch Major Advisors without consulting my current Major Advisor or my Advisory Committee?*

Although you may switch your Major Advisor, you must show courtesy by letting him or her know about your plans and the reasons for your decision. It may be that a misunderstanding has occurred that can be resolved without the need for making such a change. You may convey your decision directly to your Major Advisor or through the department Chairperson. In either case, your advisor then has an opportunity to express their opinion and make any attempt to work out problems that may have precipitated the need for a change.

*3. Can I remove or replace a member of my Advisory Committee other than my Major Advisor?*

Any change in your Advisory Committee must be made in consultation with your Major Advisor. Follow the procedures outlined above when considering replacing a committee member.

*4. Can I switch from the M.S. to the Ph.D. program without completing the Master's degree?*

Any student admitted to the M.S. program is expected to fulfill the original intent of the application. In **exceptional situations**, an M.S. student may request that the student be considered for admission to the Ph.D. program without completing all the requirements for the M.S. degree. The following policy exists. An M.S. student may only request such changes to the Ph.D. program after completing at least two regular (fall, spring) semesters of graduate study. The **Graduate Student Selection Committee** will decide whether or not to approve such a request. For an applicant to be considered for the change to the Ph.D. program, the student must have met at least two (preferably, all three) of the following criteria:

- (1) has academic credentials (standardized test scores, GPA for the last 60 hours of undergraduate study, letters of recommendation, and other subjective criteria) that are equivalent to those acceptable for any first-time applicant to the graduate program directly at the Ph.D. level;
- (2) has demonstrated outstanding research potential as documented by a unanimous endorsement in writing from the Master's **Advisory Committee** and based on a formal (seminar) presentation of research results; and/or
- (3) has at least documented submission, but preferably acceptance/publication of a first-author manuscript in a peer-reviewed journal.

The student must provide the Graduate Student Selection Committee with a new Goals Statement emphasizing research accomplishments, the reason for requesting the change, and the work to be performed at the Ph.D. level. Letters supporting the change and addressing evidence for outstanding research potential must be supplied by each Thesis Master's Advisory Committee member. The Graduate Student Selection Committee will make a holistic evaluation using the same criteria required of any applicant seeking to enter graduate school for the first time. However, the letters from the student's **Advisory Committee** will serve as the primary letters of reference, and the graduate GPA from formal Master's course work will be taken into consideration.

#### Progress/Conduct

*1a. If I am terminated from a degree program due to insufficient progress, misconduct, or any other reason, may I apply for readmission at a later date?*

If you are terminated or suspended from the graduate program for any reason and wish to apply for readmission, you must appeal to the Dean of the Graduate School in writing.

*1b. If I voluntarily resign my position, may I reapply at a later date to be readmitted to the program?*

Yes, but you must reapply to both the Graduate School *and* to the Department. The Department's Graduate Student Selection Committee will re-evaluate your application. You must have a faculty member that is willing to serve as your Major Advisor.

*2. If I am required to take a preliminary examination and fail it, will I be able to take it again?*

The preliminary examination is a diagnostic exam to identify your academic deficiencies. You will be asked to take courses as part of your degree plan to make up any such deficiencies.

*3. Ph.D. students only: If I fail my Qualifying Examination, will I be able to take it again? If I fail the written part of the Qualifying Examination, can I still take the oral part?*

The Qualifying written Exam ordinarily is at least a six hours-long (not necessarily continuous) exam. A Ph.D. student must pass the written part of the Qualifying Examination before the student is allowed to take the oral part. Passing the written part means that the student's performance must be approved by at least **a majority** of the Advisory Committee members. If a Ph.D. student fails to pass either the written part or the oral part of the Qualifying Examination, the student is allowed to retake the part failed one more time, but only after an interval of at least **four months**

and not more than 12 months. Failure to pass the Qualifying Examination a second time will result in dismissal from the doctoral program.

*4. Ph.D. students only: If I fail my Qualifying Examination (once or more than once), can I still receive an M.S. degree?*

If, after failing the Qualifying Examination, the student wishes to earn a Non-Thesis M.S. degree, the student must apply to the department for admission to the M.Sc. degree program and, if admitted, form a new Advisory Committee at that level. A new degree plan must then be submitted with the approval of the Master's Advisory Committee members.

*5. If I fail my Final Examination and Defense of thesis or dissertation, will I be able to take it again?*

In order to pass the Final examination and Defense of thesis/dissertation, a **majority** of the student's advisor committee members must cast affirmative votes. If a Master's student fails the Final Examination, that is, does not receive majority approval, the student may be permitted one more opportunity to defend after an interval of at least **four months**. The Graduate School does not normally permit a Ph.D. student to repeat the Final Examination and Defense. However, appeals for final exam decisions are covered under TTU Operating Policy 64.07.

*6. Can I complete a degree program successfully without having any teaching experience?*

There is no departmental requirement that a graduate student must have teaching experience (e.g., be appointed as a TA) for the completion of any graduate degree. However, it is recommended that students, especially Ph.D. students, obtain at least one year's experience in the classroom. This experience will make the student a much stronger candidate for future academic jobs.

### Support for Travel

*1. Is there Travel Support for Graduate Student presentations at scientific meetings or research?*

The Department maintains some funds annually for Graduate Student Travel to scientific meetings and in **very exceptional situations** (at the discretion of the Chair) for travel to research sites. The Department's two graduate student organizations (ASM and TTUAB) will sometimes support travel when a presentation is not being made but only for students that have been in the Department for less than a year. Travel support from the Department always depends upon the student doing the following:

Making a presentation that is either a poster or a talk

Filling out a travel application

Making the effort to get matching support from the Graduate School; the application paperwork must be submitted to the Graduate School **at least 30 days** before the start of the meeting

Ensuring that any travel documents required for attending and presenting at **international** meetings have been secured.

Keeping all receipts and completing a travel voucher **within 60 days** of returning from the meeting