



Division of Biological Sciences  
University of Missouri

# GRADUATE EDUCATION HANDBOOK

## AY24-25

August 2024

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## INTRODUCTION

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This handbook is a guide for graduate students and graduate faculty mentors in the Division of Biological Sciences (DBS). It contains information on requirements specific to the Ph.D. degree and M.S. degree in biological sciences as required by the Division, the University, and the Graduate School.

Sources and additional information:

- [Master's Requirements](#) (University)
- [Doctoral Requirements](#) (University)
- [Master's Degree](#) (Graduate School)
- [Doctoral Degree](#) (Graduate School)
- [M.S. in Biological Sciences](#) (DBS)
- [Ph.D. in Biological Sciences](#) (DBS)
- [Division of Biological Sciences Graduate Education Program](#) (DBS)

Information contained in this manual should be considered supplementary to existing University policies and is subject to supersession at any time by any and all applicable rules, regulations, and policies outlined by the University System, MU Graduate School, and the Division of Biological Sciences, where and/or when applicable. If you believe this document contains any errors or inaccuracies, please notify the Division's Director of Graduate Studies (DGS).

## DIVERSITY STATEMENT

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The Division of Biological Sciences recognizes that an inclusive and diverse environment is essential for scientific excellence and innovation in our research, teaching, and service missions. At its core, scientific innovation flourishes from the fusion of different perspectives and experiences, which are inherently linked to the composition of the academic community.

Therefore, we are committed to building a community in which all participants feel equally welcome and encouraged to contribute. Our commitment requires that all faculty, staff, and students of the Division actively promote an inclusive environment in which all members of the DBS community and visitors feel welcome. As individuals we will strive to recognize our biases and work together to actively minimize their influence on our interactions, opinions, and decisions. This commitment is reflected in our goal of increasing the participation of members of historically and currently excluded groups in our Division at all levels.

We are committed to building an inclusive, unbiased and prejudice-free environment that values, respects, and welcomes all individuals with their diverse backgrounds, experiences and perspectives\* and will support all in their academic and professional development.

We are committed to providing a community in which all our members (i.e., faculty, staff, and students) are expected to respectfully interact with all faculty, staff, students, and the public; and recognize the importance of having different perspectives on campus and beyond, which is fostered by having a diverse population of students, faculty, and staff.

We are committed to further increasing the diversity of our faculty, staff, and students by recruiting and retaining members of historically and currently excluded groups, particularly those underrepresented in the Division and in the biological sciences nationwide.

We embrace evidence that an inclusive environment and a diverse community stimulates scientific innovation and educational excellence. We aspire to become a model for the appreciation, enhancement, and implementation of inclusion and diversity both at MU and within the broader academic community.

Depending on our roles in the Division, we have different avenues and responsibilities to foster inclusiveness:

### **As staff, we are committed to:**

- developing practices and policies that foster inclusiveness and diverse experiences, promoting equal participation of all groups
- appreciating diverse experiences as opportunities for personal and professional growth
- welcoming opportunities for professional development, including those addressing inclusiveness and diversity in our workforce and society

### **As students, we are committed to:**

- being respectful of others in the community, such as peers, faculty, and staff, regardless of their backgrounds
- appreciating the opportunity to interact with people of different backgrounds
- utilizing diverse experiences as opportunities for personal and intellectual growth
- being receptive to new ideas and opinions

### **As faculty, we are committed to:**

- being role models for promoting inclusiveness and diversity
- being respectful in our interactions with all members of the division, university community, and public.
- developing teaching and mentoring practices that foster inclusiveness and diverse experiences, promoting equal participation of all groups
- continually revising our teaching methods to avoid approaches that can inadvertently hamper the success of students

## DBS CODE OF CONDUCT

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### 1. Purpose

In the Division of Biological Sciences (DBS), we aim to be a place where all students, staff, and faculty feel welcome and empowered to succeed (please see DBS Diversity Statement). In the interest of this goal, this code of conduct outlines our expectations for all members of the Division and outlines a procedure for addressing unacceptable behavior.

### 2. Scope

The University of Missouri has implemented guidelines and policies for conduct in several areas. We expect our members of DBS to be familiar with and adhere to those guidelines and policies. This document does not in any case supersede University-level policy. We do not outline specific consequences of unacceptable behaviors here because this document is not intended to outline disciplinary actions, but instead to outline strategies for resolving problems when they arise. Consequences for unacceptable behaviors that occur repeatedly will be specific to the situation and will be handled by a supervisor or University disciplinary body as appropriate.

### 3. Expected Behavior

The following behaviors are expected and requested of all members of DBS:

- Be welcoming, considerate, and respectful in both your speech and actions towards all members of DBS. Make an effort to consider how your speech and actions will affect others.
- Be an active participant in the Division. DBS works best when everyone is committed to contributing to our mission.
- Strive to communicate openly with others, always seeking collaboration over conflict.
- Be clear about your expectations of other members of DBS. For example, graduate students and mentors should be familiar with Mizzou's expectations and consider creating a lab document for more individual lab-specific expectations. See: <https://gradstudies.missouri.edu/current-students/scholarly-integrity-ethics/guidelines-for-good-practice-in-graduate-education/>
- Be honest and hold oneself to a high ethical standard.

### 4. Unacceptable Behavior

- DBS, like the University of Missouri as a whole, will not tolerate any form of discrimination, bias-motivated violence, sex-based violence, or retaliation under any circumstances. Also see: <https://equity.missouri.edu/reporting-and-policies/>. This behavior includes but is not limited to violence, threats, bullying, unwelcome sexual attention, and/or sexist, racist, homophobic, transphobic, ableist or otherwise discriminatory jokes and language.
- Yelling, name calling, and insults are not acceptable ways to communicate with other members of DBS.

### 5. Reporting Guidelines & Conflict Resolution Strategies

All DBS members are expected to adhere to this code of conduct. Anyone asked to stop unacceptable behavior is expected to comply immediately. When a member of DBS is not behaving according to these expectations or is engaging in unacceptable behaviors, the following conflict resolution strategy should be pursued.

Step 1: The preferred first approach for all members of DBS is to resolve the issue by direct, open communication. Note that one of our expectations for DBS members is to strive to communicate openly with others, always seeking collaboration over conflict. We encourage DBS members to first attempt speaking directly to the parties involved to attempt a resolution, when possible. DBS members might also consider seeking informal mediation of the issue with the assistance of other DBS members as appropriate. For example, graduate students may reach out to the Director of Graduate Studies, members of the Graduate Education Committee, their other committee members, or the Director of DBS.

Step 2: If resolution is not possible via direct communication with the parties involved, we encourage DBS members to report the issue to either your representative on Divisional Council or the Director of DBS. In either case, the report will result in a more formal conflict resolution process being initiated as appropriate, depending on the positions of those involved (i.e., faculty, staff, and/or graduate students).

a) Conflicts involving faculty members or staff will be referred to the Employee Assistance Program (<https://www.umsystem.edu/totalrewards/benefits/eap>) for mediation

b) Conflicts involving graduate students and/or postdoctoral scholars will be referred to the Assistant Vice Provost for Graduate and Postdoctoral Affairs. Graduate students can also contact Assistant Vice Provost for Graduate and Postdoctoral Affairs directly if they prefer not to issue a report to their representative on Divisional Council or the Director of DBS.

c) Conflicts involving undergraduate students will be referred to the Associate Director of Undergraduate Studies, Dr. Bethany Stone ([stoneb@missouri.edu](mailto:stoneb@missouri.edu)).

Step 3: If not all parties are satisfied with the resolution reached in steps 1 and 2, the complaint may be escalated to the University of Missouri grievance reporting mechanism:

[https://www.umsystem.edu/ums/rules/collected\\_rules/grievance](https://www.umsystem.edu/ums/rules/collected_rules/grievance)

Privacy and confidentiality: Every attempt will be made to ensure privacy and confidentiality when handling reports. Members of DBS that receive reports are expected to keep all reports confidential. However, some violations, including those regarding discrimination, bias-motivated violence, sex-based violence, and retaliation, will be reported to The Office for Civil Rights & Title IX (<http://civilrights.missouri.edu/reporting/>). DBS will not be part of a culture of silence that might allow these kinds of violations to persist in our community. You should therefore know that further action may be taken at the University level. If you desire a resource that will allow you to talk about an incident but keep it completely confidential, see the following list of confidential resources:

<https://equity.missouri.edu/reporting-and-policies/confidentiality-and-privacy/>

## CONTACTS

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### Administrative

- **Dr. Manuel Leal**, Director of Graduate Studies, 209 Tucker Hall, [LealM@missouri.edu](mailto:LealM@missouri.edu)
- **Dr. David Schulz**, Division Director, 105 Tucker Hall, [SchulzD@missouri.edu](mailto:SchulzD@missouri.edu)
- **Dr. Bethany Stone**, Associate Director of Undergraduate Studies, [StoneB@missouri.edu](mailto:StoneB@missouri.edu)

### Graduate Education Committee (GEC) - AY2024/2025

- **Dr. Caroline Grunenwald**, 305 Tucker Hall, [CMGrunenwald@missouri.edu](mailto:CMGrunenwald@missouri.edu)
- **Dr. Joe Santin**, 102 Lefevre Hall, [santinj@missouri.edu](mailto:santinj@missouri.edu)
- **Dr. Kevin Middleton**, 224 Tucker Hall, [middletonk@missouri.edu](mailto:middletonk@missouri.edu)
- **Graduate Student Representative**, (TBD in September)

### Division of Biological Sciences Staff Support

- **Melody Kroll**, 218 Tucker Hall, [krollmm@missouri.edu](mailto:krollmm@missouri.edu)  
--Graduate studies support staff, graduate forms, graduate course permission numbers, Graduate Seminar (BIO\_SC 8187), recruitment, annual evaluations
- **Rebecca Ballew**, 105 Tucker Hall, [ballewr@missouri.edu](mailto:ballewr@missouri.edu)  
--DBS Seminar (BIO\_SC 8087), building/lab access & issues, conference room reservations, mail/packages
- **Barrett Laurie**, 105 Tucker Hall, [laurieb@missouri.edu](mailto:laurieb@missouri.edu)  
--DBS Business manager; fiscal-related questions; appointment and payroll-related issues
- **Jared Seals and Nick Valentine**, 3 Tucker Hall, [bioit@missouri.edu](mailto:bioit@missouri.edu)  
--IT issues (except personal computers or devices)
- **Steve Heinrich**, 17 Tucker Hall, [heinrichs@missouri.edu](mailto:heinrichs@missouri.edu)  
--issues with shared research equipment

### Graduate School Staff Support

- **Ryan Adkins**, [adkinsjr@missouri.edu](mailto:adkinsjr@missouri.edu)  
-- Academic Advisor for Doctoral and Master's Students
- **Dr. Liz Bent**, [benteo@missouri.edu](mailto:benteo@missouri.edu)  
-- External Fellowship Support, Grant Development
- **Karen Gruen**, [gruenk@missouri.edu](mailto:gruenk@missouri.edu)  
-- Questions about tuition waivers and medical insurance
- **Dr. Laura Roesch and Audra Jenkins**, 201 Student Success Center  
-- Graduate Career Coaches

## APPLICATION & ADMISSION

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The Division of Biological Sciences offers two graduate degrees: the Master of Science (M.S.) degree and the Doctor of Philosophy (Ph.D.) degree.

### Admission

Applicants to the Division's graduate program are considered once a year for Fall admission, with a December 1

application deadline. All applicants must fulfill the minimum [admission requirements of the Graduate School](#) and show likelihood of successfully completing the Divisional program.

### Application Process

The Division prioritizes evidence of attributes such as drive, diligence, passion for sharing scientific knowledge, and a willingness to take scientific risks over metrics such as GPA, standardized test scores, and other similar quantifications. Therefore, the application process should be seen as an opportunity to highlight these attributes through essays and letters of reference.

Most graduate students will enter the program having already identified the lab where they intend to carry out their research. It is important, therefore, for prospective students to make connections with potential advisors before submitting an application. These initial conversations should determine whether the student's interests match the interests of the advisor and whether the advisor is currently accepting new graduate students.

### Application Materials (for M.S. and Ph.D.)

- [Transcripts](#) from each college or university attended. Unofficial copies of transcripts can be uploaded as part of the application process. If offered admission, students are required to submit official transcripts to the Graduate School. International students coming from overseas may hand-deliver their official transcripts to the Graduate School (as opposed to mailing them); official transcripts must be submitted by the first semester or students will not be allowed to register for a second semester.
- [Research Essay](#) describing previous research experience and how it has influenced the topic(s) being pursued for graduate school.
- [Personal Statement](#) discussing reasons for pursuing a graduate education.
- Names and contact information for [three references](#) who have agreed to write letters of recommendation; letters should comment on student's potential for success in graduate work.
- [Resume/CV](#) to include (as applicable) research experiences, publications, conference attendance, presentations, awards/honors, teaching experience, and extracurricular activities
- [English Language Proficiency Exam](#). Students whose first language is other than English must take an English language proficiency test.

### GRE Scores

The Division does not consider Graduate Record Examination (GRE) scores as criteria for admission to the graduate program. Applications that include GRE scores will have the scores removed before any evaluation occurs by the faculty or the Graduate Education Committee.

### Application Fee Waiver

The Graduate School offers [application fee waivers](#) to select students. Faculty also may pay the application fee by providing the applicant's name, email address, and a MoCode to the graduate education staff contact person (currently, Melody Kroll, [krollmm@missouri.edu](mailto:krollmm@missouri.edu)).

### Admission Process

All faculty are invited to review applications and provide feedback on applicants. The Graduate Education Committee considers all feedback, and select candidates are invited to interview. Departmental admission decisions are based on the interview and the applicant's record.

Final admission is contingent upon receipt of all required application materials and formal review and acceptance of the student's academic credentials by the Graduate School at the University of Missouri.

### Off-Cycle Admission

Students may opt to defer their admission for one year. Deferring until the Spring semester is not allowed. Special circumstances arise when students start during the Summer semester. A graduate student starting in the summer term will pursue full-time research for at least ten weeks that summer with a Biological Sciences faculty member agreeing to supervise the research. In most cases, the student is hired in on a non-qualified title (e.g., job code 4710) for the summer. Domestic students may enroll in up to 5 credit hours of BIO\_SC 7990, and international students must enroll in 5 credit hours their first summer. The student's performance is reflected in an assigned grade, which is communicated to Dr. Bethany Stone.

### New Student Orientations

All newly admitted graduate students to the Division of Biological Sciences are required to attend the following orientations. TA training is required even if the student will not TA immediately.

- [New Graduate Student Orientation](#), MU Graduate School
- Graduate Teaching Orientation (GTO), MU Graduate School
- Division of Biological Sciences Teaching/TA orientation, hosted by Dr. Bethany Stone



- Division of Biological Sciences New Student Orientation, hosted by the GEC
- [International Student Orientation](#) (as applicable)
- Fellowship Orientation (as applicable)

## ASSISTANTSHIPS

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Applicants to the graduate program who are accepted with an assistantship are given a full academic year appointment. In principle, the Division is committed to provide some form of financial support to all qualified Ph.D. (M.S.) students through the first 5 (3) years of graduate study. In most cases, support is in the form of a 0.5 FTE Teaching Assistantship (GTA). This may be supplemented by research assistantships, grants, and fellowships. A 0.5 FTE GTA/GRA includes a competitive stipend, student medical insurance, and tuition for all qualifying full-time students (see GSSP below).

Graduate assistantships are subject to university and departmental funding. Adequate progress toward completing the degree and evidence of satisfactory performance and conduct are required for renewal, in addition to available funding. Assistantships are made on a yearly basis. On occasion, an assistantship may be for a single semester. Assistantships may be terminated during the academic year if a student's performance is documented to have been unreliable, unprofessional, or otherwise unacceptable.

### Stipends

The base 2024-2025 stipend (for the two academic-year semesters) for a GTA is \$24,000. An additional \$6,000 summer salary is provided by the student's Primary Advisor for a total stipend amount of \$30,000. As of August 1, 2024, most students will move to a 12-month appointment that totals \$30,000—in other words, your year-round pre-tax income will be \$2500/mo. Appointments will be renewed every August 1 thereafter.

### Graduate Research Assistants (GRAs)

GRAs are appointed by individual faculty members with funded research grants. The stipend amount for students supported on a GRA must be at least the same amount as for a GTA and must be 0.5 FTE to qualify for a tuition waiver through the GSSP.

### Graduate Student Support Program (GSSP)

Graduate students with a qualifying assistantship or fellowship (0.5 FTE) are eligible for a fee waiver administered by the [Graduate Student Support Program](#) (GSSP). The GSSP fee waiver covers the student's tuition. The GSSP does not cover [mandatory fees](#): student health fee, (AY24-25: \$107.90 flat rate/semester), recreation center fee (AY24-25: \$185.20 flat rate/semester), student activity fee (AY24-25: \$27.50/credit hour up to 9 hours/semester), and (as applicable) international student services fee. The student is responsible for these mandatory fees plus any late fees unless an arrangement other than the GSSP fee waiver has been made.

**Note:** Tuition waivers are subject to time limits by the Graduate School.

## M.S. DEGREE REQUIREMENTS

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### Summary of Degree Requirements

- Enroll in BIO\_SC 8050 (Fall, Year 1), BIO\_SC 8060 (Spring, Year 1), BIO\_SC 8087 (4 semesters) and BIO\_SC 8187-1 (4 semesters).
- Determine additional coursework to meet 30 credit hour requirement
- Complete a Plan of Study in consultation with Primary Advisor (M1 form)
- Design a thesis project in consultation with Primary Advisor
- Form a thesis committee (M2 form) and meet annually ([Annual Committee Mtg Form](#))
- Maintain full enrollment (at least 9 credits in the Fall and Spring semesters)
- Maintain a GPA of 3.0
- Submit activities and annual evaluation through myVITA and meet with the GEC annually
- Satisfactorily perform duties associated with Assistantship or Fellowship
- Conduct thesis research
- Write, orally defend, and submit research thesis (M3 Form)
- Submit Division's M3-A Form
- Be a good citizen of the Division

### Academic Process for M.S. Students

Step 1: Design Thesis Project

M.S. students are admitted directly to a lab/advisor usually with a defined thesis project. The research project must be appropriate for completion within 2 years and MUST result in a thesis and defense.

Step 2: Form Thesis Committee

The Thesis Committee is responsible for 1) the composition, administration, and evaluation of the student's

Program of Study, 2) advising the student throughout graduate study, and 3) evaluation of the thesis and the final defense. The first meeting of the student's Thesis Committee should occur before the end of the Spring semester of Year 1.

The Thesis Committee is composed of three members of the MU graduate faculty. Two members must be from the Division of Biological Sciences. The third member may or may not be from the Division. The composition of the Thesis Committee is communicated to the Graduate School via the [M2 – Request for Thesis Committee Form](#). Any changes to the composition (other than the Primary Advisor) must be reported to the Graduate School using the [Change of Committee form](#).

Due to the short timeframe of the M.S. degree, any change to the Primary Advisor must be approved by the DGS first and then reported to the Graduate School via the [Application For Graduate Change of Program, Degree, Emphasis, or Advisor form](#).

#### Step 3: Submit Program of Study

The Program of Study outlines the courses the student intends to take to meet the 30-hour credit limit for the Master's degree. The student completes the [M1 – Program of Study for the Master's Degree Form](#) together with their Primary Advisor. The M1 form must be filed with the Graduate School before the end of the student's second semester of enrollment. Upon approval of the Program of Study by the Graduate School, the student is a candidate for the degree.

The student is required to complete all courses listed on the M1 form prior to the degree being granted. If a change is necessary to a student's approved Program of Study form, a [Plan of Study Course Substitution Form](#) must be completed and filed with the Graduate School prior to applying for graduation.

#### Step 4: Annual Committee Meetings

In DBS, a student is required to meet at least annually with their Thesis Committee. At these annual meetings, the student should provide an update on the status of their research and if any goals have changed. The committee should provide feedback on the student's research direction and assess the student's progress toward their research goals and other milestones. The annual assessment of student progress is communicated to the DGS via the Division's [Annual Committee Meeting Form](#); this form is completed by the Primary Advisor. Students who have not met with their committee in over a year will not be allowed to register for research credits (BIO\_SC 8090) and may be subject to academic probation.

The GEC recommends students provide their committee (annually) an updated CV, IDP, any published articles co-authored by student, grant proposals related to research, and teaching and diversity statements.

It is the responsibility of the student to organize the annual meetings with the thesis committee. The student should identify a time that works for everyone on the committee. It is highly recommended that the student attempt to schedule the meeting 6-8 weeks before they intend to have it.

#### Step 5: Write Research Thesis

The Division requires a thesis for degree completion. The thesis must be the student's own work and must demonstrate a capacity for research and independent thought.

The student is responsible for adhering to the Graduate School [Guidelines for preparation of the thesis](#). The GEC recommends the Style Manual published by the Council of Biology Editors, Inc. for questions of punctuation, capitalization, and other matters of general style, and the format of the premier journal in the discipline of research for references of articles. All other matters of style are at the discretion of the Primary Advisor.

The student must provide a complete draft of the thesis to the Primary Advisor SIX WEEKS prior to the defense date. The student should allow at least two weeks for revisions with their Advisor prior to submission to their Thesis Committee. The committee should have two weeks to review the thesis prior to the defense. Failure to meet these deadlines can result in postponement of the defense.

#### Step 6: Defend Research Thesis

The thesis defense involves a public research seminar followed by a closed meeting of the candidate with the Thesis Committee. The defense takes place in a public forum at a time and venue determined by the student in consultation with their thesis committee. During a defense, a student may be asked questions by members of the committee as well as by anyone in attendance. In the Division, the defense is 45 minutes long plus 15 minutes for questions and answers. The defense should be scheduled as part of the Division's Seminar Series or Graduate Seminar course.

The closed defense with the Thesis Committee should occur immediately after the public defense. (The Division's DGS must be notified by email if the closed-door defense cannot be scheduled on the same day as

the seminar.) At the closed defense, committee members may ask additional questions of the student about the research presented in the thesis and may request changes. At the end of this closed meeting, the student will leave, and the Thesis Committee is given time to decide on whether to approve the dissertation and, as necessary, on what conditions.

The decision of the committee is communicated to the Graduate School via the [M3 – Report of the Master’s Degree Examining Committee Form](#), which must be completed and signed by all committee members and then forwarded through the DGS to the Graduate School by the semester [deadline](#).

#### Step 7: Submit Thesis to the Graduate School

It is the student’s responsibility to follow the Graduate School’s [guidelines](#) on the order and format of the Master’s thesis. Submission occurs through Canvas (which the student is granted access to when they apply to graduate) and includes supplementary paperwork, including an electronic release form, signed approval page, and a publishing agreement form. The student is responsible for paying the required processing fee.

The Graduate School has strict [deadlines](#) for thesis submissions. It is the responsibility of the student to be aware of and meet these deadlines.

#### Step 8. Apply to Graduate

The student is responsible for completing the [Application for Graduation](#) found on the Graduate School website by the [deadline](#). The student must be admitted and actively pursuing the degree they plan to complete – in other words, the student must be enrolled in the minimum number of credit hours the semester they complete their degree, including Summer. Students who need to switch their application from Spring to Summer or withdrawal their application to graduate must contact the Graduate School. Students can incur a fee for switching or withdrawing their application.

#### Step 9: Attend Commencement

Students must RSVP with the Graduate School to attend commencement. The deadline to be listed in the commencement book is earlier than the deadline to attend. It is the responsibility of the student to be aware of these [deadlines](#).

The Spring semester ceremony is held in May, and the Fall semester ceremony is held in December. A student completing a degree during the Summer should review the Graduate School’s [summer participation policies](#).

The Division hosts an informal ceremony for its graduates prior to the commencement ceremony in May. Students who will be completing the M.S. degree in the Spring or Summer as well as the previous Fall are invited to participate.

Students can purchase regalia from the MU Bookstore, and faculty can rent or purchase regalia through the [Mizzou Store](#). The Division has one regalia set available for faculty in Tucker 105 and two regalia sets for graduate students in Tucker 218. The regalia are loaned out on a first-come/first-served basis and must be returned promptly.

### Coursework Required for M.S. Degree

#### Minimum credit requirement

MU requires a minimum of 30 hours of graduate credit beyond the bachelor’s degree (or its equivalent) for a Master’s degree. Fifteen of the 30-hour minimum must be selected from courses numbered at 8000 or 9000 level. No more than 40 percent (12 credit hours) of the 30-hour credit requirement can be satisfied by research courses; i.e., BIO\_SC 8090. A student’s thesis committee must approve all coursework used to satisfy the credit-hour requirement and may require additional course work beyond these minimums.

#### Courses

BIO_SC 8050, Professional Skills*	Year 1, Fall	2 h
BIO_SC 8060, Ethical Conduct of Research*	Year 1, Spring	1 h
BIO_SC 8087, DBS Seminar*	4 semesters	4 h
BIO_SC 8187-1, Graduate Student Seminar*	4 semesters	4 h
BIO_SC 8090, Research*		12 h
Courses in research area (8000, 9000 level)		≥ 7 h
Total		30 h

\*Courses and credits required by the Division of Biological Sciences

### Length of Study Policy

The program for the M.S. degree must be completed within a period of three (3) years beginning with the first semester of enrollment in which the student is accepted. For any extension of this time limitation, the student must petition the Division's DGS in writing prior to the end of the 5th semester of enrollment in the program. The DGS will notify the student and their Primary Advisor in writing of the decision.

### Good Academic Standing

A student's academic standing in the Division is based on:

- Meeting all requirements, including courses, forms, and deadlines
- A GPA of 3.0 or greater. When a student's GPA falls below 3.0, receives more than 2 C's in graduate courses, or spends two consecutive semesters on academic probation, they will be notified in writing that their performance is not satisfactory.
- Satisfactory research performance, as assessed by the Primary Advisor.
- Satisfactory performance toward assistantship, as assessed by Dr. Bethany Stone (if GTA) or Primary Advisor (if GRA)
- Full-time enrollment.

Unsatisfactory performance can result in dismissal from the M.S. program. The decision regarding a student's standing in the Division is made by the DGS in consultation with the student's Primary Advisor and the GEC and can be appealed to the Division's Director, and then to the Graduate Faculty Senate Committee on Graduate Student Appeals.

Details on procedures for appeal to the Division and Graduate Faculty Senate can be found at:

<https://gradschool.missouri.edu/policy/probation-termination-and-appeals/>

## PH.D. DEGREE REQUIREMENTS

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### Summary of Degree Requirements

- Select a Primary Advisor
- Form and meet with Doctoral Program Committee (D1 form)
- Enroll in BIO\_SC 8050 (Fall, Year 1), BIO\_SC 8060 (Spring, Year 1), BIO\_SC 8087 (10 semesters) and BIO\_SC 8187-1 (6 semesters)
- Determine additional coursework to meet 72 credit hour requirement
- Complete Plan of Study (D2 form)
- Maintain full enrollment (at least 9 credits in the Fall and Spring semesters, 5 in the Summer)
- Maintain a GPA of 3.0
- Design a dissertation project in consultation with Primary Advisor and Doctoral Program Committee
- Meet annually with Doctoral Program Committee ([Annual Committee Mtg Form](#))
- Report and submit activities and evaluation via MyVita and meet with the Division's GEC annually
- Satisfactorily perform duties associated with Assistantship/Fellowship
- Satisfactorily pass the Comprehensive Examination within 3 years of enrollment (D3 Form)
- Satisfactorily perform dissertation research under supervision of Primary Advisor and Doctoral Program Committee
- Satisfactorily write, defend, and submit research dissertation (D4 form) within 5 years of enrollment
- Be a good citizen of the Division

### Academic Process for Ph.D. Students

#### Step 1: Select Primary Advisor

The student identifies a Primary Advisor from faculty members of the Division of Biological Sciences.

Students conducting their dissertation research under the supervision of a faculty member who is not a Core member of the Division of Biological Sciences must arrange to have a "Co-Advisor" from the Division.

The choice of Primary Advisor is subject to final approval by the faculty member, the Division's DGS, GEC, and the Division Director. The Division requires students to select their Primary Advisor before the end of their second semester. Any change to the Primary Advisor must be reported to the Graduate School by completing the [Application For Graduate Change of Program, Degree, Emphasis, or Advisor form](#).

#### Step 2: Form Doctoral Program Committee

The Doctoral Program Committee is responsible for 1) the composition, administration, and evaluation of the student's Program of Study, 2) advising the student throughout graduate study, 3) evaluation of the written and oral components of the Comprehensive Examination, and 4) evaluation of the dissertation and the final defense.

The Doctoral Program Committee is composed of four members of the MU Graduate Faculty. The Doctoral Program Committee must include three faculty from the Division of Biological Sciences; the fourth faculty

member may be from DBS or from a different academic department. The student's Doctoral Program Committee must be communicated to the Graduate School via the [D1 – Qualifying Examination Results and Doctoral Committee Approval Form](#). Any changes to the composition of a Doctoral Program Committee (except the Primary Advisor) must be reported to the Graduate School using the [Change of Committee](#) form.

#### Step 3: First Committee Meeting: Qualifying Exam and Program of Study

The **Qualifying Exam** occurs at the first meeting of the student's Doctoral Program Committee. This meeting should occur before the end of the student's second semester. In DBS, the Qualifying Exam consists of an oral presentation on the topics the student plans to pursue as part of his/her graduate program followed by a question-and-answer period to determine specific areas the student needs to become familiar with to accomplish his/her research interests. The committee also should discuss the student's Plan of Study and recommend changes based on the Q&A discussion. A student is not required (and/or expected) to have a specific project and/or preliminary data at this stage.

**D1 and D2 forms:** Committee members should vote "pass" or "fail" at the conclusion of the question period. The decision is recorded on the [D1 - Qualifying Examination Results and Doctoral Committee Approval Form](#) and signed by the Primary Advisor. Committee members indicate their agreement of the student's Plan of Study by signing the [D2 - Plan of Study for the Doctoral Degree Form](#). It is the responsibility of the student to submit the signed D1 and D2 forms to the Division's DGS following completion of the first committee meeting and before the end of their second semester.

A student is required to complete the courses reported on the D2 form. If a change is necessary to a student's approved Plan of Study form, a [Plan of Study Course Substitution Form](#) must be completed and filed with the Graduate School prior to applying to graduate.

#### Step 4: Annual Committee Meetings

In DBS, a student is required to meet at least annually with his/her Doctoral Program Committee starting in year 2. At these annual meetings, the student should provide an update on the status of their research and if any goals have changed. The committee should provide feedback on the student's research direction and assess the student's progress toward their research goals and other milestones. The annual assessment of student progress is communicated to the DGS via the [Division's Annual Committee Meeting Form](#); this form is completed by the Primary Advisor. Students who have not met with their committee in over a year will not be allowed to register for research credits (BIO\_SC 9090) and may be subject to academic probation.

It is the responsibility of the student to organize the annual meetings with their Doctoral Program Committee. It is highly recommended that the student attempt to schedule the meeting 6-8 weeks months before they intend to have it. The GEC recommends that students provide their committee (annually) an updated CV, IDP, any published articles co-authored by student, grant proposals related to research, and teaching and diversity statements.

#### Step 5: Pass Doctoral Comprehensive Examination

The doctoral degree requires successful completion of the Comprehensive Exam. Per the Graduate School, a student must substantially complete the course work outlined in the Plan of Study to the satisfaction of the Doctoral Program Committee (and with a GPA of 3.0 or higher) before taking the Comprehensive Examination. The Division recommends the Comprehensive Examination be completed as early as the end of the student's second year (semester 4) and requires it before the end of the student's third year (semester 6). The aim of the Comprehensive Exam is to ensure that a student understands both the field, in general, and their individual research focus and is prepared to complete a dissertation.

The Comprehensive Exam consists of written and oral sections. In the Division, the format of the written part of the exam usually takes the format of an NIH F31 proposal or NSF dissertation improvement proposal. In general, the written document should not be longer than 15 pages, excluding references. An oral presentation of the proposal and responses to questioning by the committee satisfies the oral component of the exam. **The oral component of the exam should take place only after the written portion has been approved by the committee.**

The decision of the committee is recorded on the [D3 - Doctoral Comprehensive Examination Results Form](#) and submitted to the Graduate School (via the DBS Graduate Education Office) no later than two weeks after the Comprehensive Exam takes place. A failure of either the written or oral components of the exam constitutes failure of the Comprehensive Exam and must follow [University guidelines for Exam Failure](#).

*Continuous enrollment after the exam.* Students must maintain continuous enrollment during their candidacy (the period after successful completion of the comprehensive examination). Candidacy is

maintained by enrolling in at least 2 credits hours each fall and spring semester and 1 credit hour during the summer semester, up to and including the term in which the dissertation is defended. Continuous enrollment provides access to an Advisor's support, doctoral program committee guidance and university research facilities for completion of the dissertation. Failure to enroll continuously until the doctoral degree is awarded terminates candidacy.

#### Step 6: Write Dissertation

Upon completion of research, and with the approval of the Primary Advisor and Doctoral Program Committee, the student will prepare a dissertation. The student is responsible for adhering to the Graduate School [guidelines](#) regarding the preparation and format of the dissertation. The GEC recommends the Style Manual published by the Council of Biology Editors, Inc. for questions of punctuation, capitalization, and other matters of general style, and the format of the premier journal in the discipline of research for references with the full title and inclusive page numbers of the articles. All other matters of style to be at the discretion of the Primary Advisor.

The student must provide a complete draft of the dissertation to their Primary Advisor SIX WEEKS prior to the defense date. The student should allow at least two weeks for revisions with their advisor prior to submission to the Doctoral Program Committee. The committee should have TWO WEEKS to review the thesis prior to the defense. The students should allow TWO WEEKS minimum after the closed-door defense for revisions prior to final submission of the dissertation to the Graduate School. Failure to meet these deadlines can result in postponement of the defense.

#### Step 7: Defend Dissertation

The dissertation defense involves a public research seminar followed by a closed meeting of the candidate with the Doctoral Program Committee. The research seminar takes place in a public forum at a time and venue determined by the student and his/her Doctoral Program Committee. During the seminar, a student may be asked questions by members of his/her committee as well as by anyone in attendance. In DBS, the seminar is 45 minutes long plus 15 minutes for questions and answers. Whenever possible, the seminar should be scheduled as part of the Division's regular seminar series or Graduate Seminar course.

The closed defense with the committee occurs immediately after the public defense. (The Division's DGS must be notified if the closed-door defense cannot be scheduled on the same day as the seminar.) At this closed defense, committee members may ask additional questions of the student about the research presented in the dissertation and may request changes. At the end of this closed meeting, the student will leave, and the committee is given time to decide on whether to approve the dissertation and, as necessary, on what conditions.

The [D4 - Report of the Dissertation Defense Form](#) reports whether the student has successfully orally defended the dissertation. The form must be completed and signed by all committee members and then forwarded through the DGS to the Graduate School by the semester deadline. For the dissertation to be successfully defended, the student's doctoral committee must vote to pass the student on the defense with no more than one dissenting or abstaining vote. The dissertation defense form reports whether the student has successfully orally defended the dissertation.

#### Step 8: Submit Dissertation to the Graduate School

Submission occurs through Canvas and includes supplementary paperwork, including an electronic release form, signed approval page, and a publishing agreement form. The student is responsible for any processing fees. The Graduate School has strict [deadlines](#) and formats for dissertation submissions. It is the responsibility of the student to be aware of and meet these deadlines and formatting requirements.

#### Step 9: Apply to Graduate

The student is responsible for completing the [Application for Graduation](#) found on the Graduate School website by the [deadline](#). The student must be admitted and actively pursuing the degree they plan to complete; in other words, the student must be enrolled in the minimum number of credit hours the semester they complete their degree, including summer. Students who need to switch their application from Spring to Summer or withdrawal their application must contact the Graduate School. There is an application fee to graduate. Students can incur an additional fee by switching or withdrawing their application.

#### Step 10: Attend Commencement

Students must RSVP with the Graduate School to attend commencement. The deadline to be listed in the commencement book is earlier than the deadline to attend. Students will receive emails about these deadlines from the Graduate School. Spring semester ceremonies are held in May, and Fall semester

ceremonies are held in December. Students completing degrees during the Summer should review the [summer participation policies](#).

DBS hosts an informal ceremony for its graduates prior to the commencement ceremony in May. Students who will be completing the Ph.D. degree in the Spring or Summer as well as the previous Fall are invited to participate.

Students can purchase regalia from the MU Bookstore, and faculty can rent or purchase regalia through the [Mizzou Store](#). The Division has one regalia set available for faculty in Tucker 105 and two regalia sets for graduate students in Tucker 218. These are loaned out on a first-come/first-served basis and must be returned promptly.

### Coursework Required for Ph.D. Degree

#### Minimum credit requirement

MU requires a minimum of 72 hours of graduate credit beyond the bachelor's degree (or its equivalent) for a doctoral degree. Fifteen of the 72-hour minimum must be selected from courses numbered at 8000 or 9000 level. A student's dissertation committee must approve all coursework used to satisfy the credit-hour requirement and may require additional course work beyond these minimums.

#### Required Courses

BIO_SC 8050, Professional Skills*	(Year 1, Fall)	2 h
BIO_SC 8060, Ethical Conduct of Research*	(Year 1, Spring)	1 h
BIO_SC 8087, DBS Seminar*	(10 semesters)	10 h
BIO_SC 8187-1, Graduate Student Seminar*	(6 semesters)	6 h
Courses in research area of focus (8000, 9000 level)		≥ 15 h
BIO_SC 9090, Research toward dissertation		~38 h
Total		72 h

\*Required courses and credits for the Division of Biological Sciences

### Length of Study Policy

The program for the Ph.D. degree must be completed within a period of five (5) years beginning with the first semester of enrollment in which the student is accepted to a degree program. For any extension of this time limitation, the student must petition the DGS in writing prior to the end of the 9th semester of enrollment in the program. The DGS will notify the Primary Advisor in writing of the decision.

### Good Academic Standing

A student's academic standing in the Division is based on:

- Meeting all requirements, including courses, forms, and deadlines
- A GPA of 3.0 or greater. When a student's GPA falls below 3.0, receives more than 2 C's in graduate courses, or spends two consecutive semesters on academic probation, they will be notified in writing that their performance is not satisfactory.
- Satisfactory research performance, as judged by the Primary Advisor
- Successful completion of Comprehensive Examination with a "Pass" decision
- Satisfactory performance toward assistantship, as assessed by Dr. Bethany Stone (if GTA) or Primary Advisor (if GRA).
- Full-time enrollment.

Unsatisfactory performance for failure to meet the usual examination and grade requirements can result in dismissal from the Ph.D. program. The decision regarding a student's standing in the Division is made by the DGS in consultation with the Primary Advisor and GEC and can be appealed to the Division's Director, and then to the Graduate Faculty Senate Committee on Graduate Student Appeals. Details on procedures for appeal to the Division and Graduate Faculty Senate can be found at: <https://gradschool.missouri.edu/policy/probation-termination-and-appeals/>

## COURSES

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### Required Courses

BIO\_SC 8050, Professional Survival Skills

This course is required of all Biological Sciences graduate students. We recommend students complete this course their first year. (Only offered in the Fall.) The course provides first-year graduate students a forum to discuss current issues of inclusion and equity, particularly as it relates to STEM fields and more generally

academia, the mentor-mentee dynamics including the discussion of a COMPACT, implicit bias and microaggression, transition from undergraduate to graduate students, and formation of a committee, among other topics.

#### BIO\_SC 8060, Ethical Conduct of Research

This course is required of all Biological Sciences graduate students. We recommend students complete this course their first year. (Only offered in Spring) Discussion of ethical issues in biological research, including the rules and conventions for appropriate research conduct.

#### BIO\_SC 8087, DBS Seminar

Students should enroll in this course every Fall and Spring semester throughout their graduate career. The course invites speakers to address current topics in the biological sciences.

#### BIO\_SC 8187, Graduate Student Seminar

Students should enroll in this course every Fall and Spring semester in Years 1-3. This course combines targeted professional development talks with student seminars. The goal is to give students multiple opportunities to give oral presentations and updates about their research throughout their graduate career. Students are invited to give a talk about their first-year projects at the end of the Spring semester and give updates about their research during the Fall semester of their third year and the Spring semester of their fourth year. Students are strongly encouraged to schedule their thesis/dissertation defense during Graduate Student Seminar.

#### BIO\_SC 8090, Research Toward Thesis

Used for students doing research toward the M.S. degree.

#### BIO\_SC 9090, Research Dissertation

Used for students doing research toward the Ph.D. degree.

### Recommended Courses

#### BIO\_SC 7990, Research Rotations

This course is used for research rotations. A student may choose to do a rotation to learn about projects with potential Primary Advisors, new techniques, and/or new areas of science. Thus, rotations in very different focal areas are highly recommended. Rotations are either four weeks or eight weeks in duration. The length of the rotation is determined by the student and the student's Primary Advisor (if known) in consultation with the sponsoring lab. Generally, 1 credit is equivalent to a 4-week rotation and 2 credits is equivalent to an 8-week rotation. A permission number is required to register for BIO\_SC 7990. Students must provide the name(s) of the sponsoring labs and durations of the rotations to obtain a permission number. During a rotation, the student is expected to perform as a full member of the laboratory. The student should have a desk, laboratory bench, and a defined project supervised and guided by a member of the laboratory. The rotation laboratory should serve as an academic home and the student should participate in all usual laboratory activities, particularly weekly lab meetings. The student should present an oral report about the research pursued to the host laboratory at the end of the rotation period. Each sponsoring faculty member will provide Dr. Bethany Stone with an assessment of the student's performance ***in the assignment of a grade.***

#### BIO\_SC 8640, Quantitative Methods in Life Sciences

(Offered every Spring semester). This graduate-level course in statistical analysis is designed for the specific needs of students in life sciences, focusing on statistical literacy: performing, interpreting, and writing about biological data analysis. As such, the course assumes a basic understanding of some topics and little understanding of other topics. The course will cover most topics broadly and occasionally in great depth, highlighting the perils and pitfalls of different methods, while providing guidelines for a wide array of statistical approaches to data analysis. The course seeks to find the balance between really understanding all the math involved and learning to be a competent practitioner and consumer of analysis, emphasizing the practical over the theoretical, with additional focus on the communication of data (plotting, graphs, figures) and of results. Graded on A-F basis only.

#### BIO\_SC 8723, Pedagogical Prep for Biological Science TAs

(offered every Spring semester). This course is designed for graduate students, with different levels of prior teaching experience and familiarity with pedagogical concepts, who help science courses. The main goals of this course are for GTAs 1) to become familiar with the basic elements of scientific teaching, 2) to practice and improve inclusive and evidence-based teaching techniques; 3) to monitor, reflect, and assess teaching and learning in their classrooms. In addition to engaging in related discussions and activities, another goal of



this course is to create a community of science GTAs who can provide longer-term teaching support to each other.

## **GRADING AND CREDIT POLICIES FOR GRADUATE STUDENTS**

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The Graduate School [Grading and Credit Policies website](#) defines and details policies regarding satisfactory/unsatisfactory (S/U) grades, Unreported Grades (NR), Incompletes, Graduate-Level Courses, Grade Point Averages, GPA and Probation and GPA and Graduation for graduate students.

The Division considers grades of "A" and "B" as passing grades. Grades in the "C" range are considered unsatisfactory, and the student must retake the course(s). A required course must be completed with a grade of "B" or better in order to remain a Ph.D. student in good standing. No D grade may be awarded to a graduate student, and a grade of F means the work has not satisfied the minimum requirements of the course. A grade of "F" in required courses can result in dismissal from the graduate program in Biological Sciences, for lack of making "satisfactory progress". Only graduate students in good standing may take the Comprehensive Exam.

## **ANNUAL REVIEW OF GRADUATE STUDENT PERFORMANCE**

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The Division of Biological Sciences and the Graduate School both require all graduate students to submit an annual report of academic progress. Annual reviews take place during the Spring semester.

### **Progress Toward Degree**

Full-time students should follow the timeframes associated with degree programs established by the Division of Biological Sciences. They must submit required forms on time and maintain a grade point average of 3.0 or better. Furthermore, they must successfully undergo the Division's annual review processes.

### **Division of Biological Sciences Annual Review**

The progress of each graduate student is evaluated annually by the Division's Graduate Education Committee (GEC). This review has two aims. First, it provides a mechanism to facilitate/promote communication between graduate students and their mentors about progress, expectations, and academic and professional goals. Second, it ensures that students are on track to complete their degree in a timely manner and, if not, to identify/address any issues that may be hampering progress. Information from the annual reviews also is used by the GEC to assess the overall graduate student experience in the Division and to identify areas in need of improvement.

As part of the annual evaluation, students are required to (1) complete a self-evaluation, (2) complete an evaluation of their Primary Advisor, (3) provide a complete and accurate reporting of their Activities in myVita (see below), (4) meet with the GEC. The student's Primary Advisor also will complete an evaluation of the student and a self-evaluation of their mentoring. Following the meeting, the GEC will provide a letter to the student and mentor with an assessment of the student's progress, next steps, and suggested areas for professional development and continuing progress.

### **Graduate School Annual Review of Performance**

The Graduate School coordinates its annual reviews for PhD students and graduate assistantships using myVITA. Graduate students are required to provide a complete and accurate report of their academic progress, completion of required forms, awards and honors, conferences, presentations, publications, service activities, creative activities, funding activities, employment, and job placement. Click [here](#) to Access myVITA.

### **Probation and Termination Policies for Graduate Students**

In addition to dismissal for failure to meet the usual examination and grade requirements, departments have the right to place on probation — and, after at least 30 days of probation, to dismiss from the program — any graduate student who is deemed to be making insufficient academic progress or whose work is not of the quality required. The Primary Advisor, DGS, or Division Chair must inform the Graduate School as soon as the student has been notified and the probationary period has begun. The dismissal may occur at any time during a student's work toward a graduate degree. See [Academic and Departmental Probation, Termination, and Appeals](#) and [Probation & Termination Policies for Graduate Students](#) for complete information about the probation-termination-appeal process.

### **Process of Appeal of Dismissal to Division of Biological Sciences**

A student may appeal dismissal from the Division of Biological Sciences graduate program to the Division's Graduate Education Committee. The student must inform the DGS in writing that they are appealing dismissal within two weeks of dismissal; this letter should also be sent to the Graduate Dean. No members of the GEC who are also on the student's committee may participate in the appeal decision. If a majority of the members of the GEC are also on the student's committee, an *ad hoc* committee will be appointed by the Director of the Division to consider the appeal of dismissal. The student should submit to the GEC a written statement that documents how the student has met each of the conditions of probation described in the letter from his/her graduate committee.

### **Process of Appeal of Dismissal to the Graduate Faculty Senate**

Students may appeal dismissal from a graduate degree program to the Graduate Faculty Senate. See [Academic and Departmental Probation, Termination, and Appeals](#) on the Graduate School's website for complete information about the process.

## TEACHING EXPERIENCE

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An important part of graduate education is learning to communicate effectively as a teacher. All students must participate in the Teaching Assistant (TA) orientations and trainings offered by the Division of Biological and by MU (GTO).

Student TAs work in conjunction with a faculty who is instructor in an undergrad-level course. TA performance is evaluated by undergraduate students and by Dr. Bethany Stone, who serves as the supervisor for all GTA positions. Visit <https://gradschool.missouri.edu/policy/performance-renewal-evaluation-criteria-for-graduate-assistantships/> to read more about assistantship performance evaluations.

### Oral Language Proficiency

Missouri requires that students whose first language is not English must demonstrate adequate oral proficiency before they can assist with teaching. Proficiency is demonstrated by passing the University oral proficiency examination. The [International Teaching Assistant Program](#) (ITAP) provides an on-campus, computer-assisted assessment called the MACCS (Mizzou's Assessment of Classroom Communication Skills). Assessment results are given as a proficiency level from 1 to 4. A minimum level of 3 is needed to qualify for a teaching-related role in the Division of Biological Sciences. *Failure to pass the oral proficiency examination by the end of the first year following matriculation may result in termination from the graduate program.* Students with poor oral proficiency, as evidenced by a score of less than 1 or 2 on the exam, may be required to enroll in a University English course.

### Campus Teaching Professional Development Opportunities on Campus

The GEC recommends the following resources for graduate students who wish to gain additional teaching experience.

- [Minor in College Teaching](#)
- [Teaching for Learning Center](#)
- [Sandra Abell Conversations in College Science Teaching](#)
- [THRIVE](#)
- [Celebration of Teaching Annual Conference](#) (takes place in May)
- [UM System Teaching & Learning Support](#) website

## GRADUATE STUDENT RESOURCES

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### Best Practices

The GEC is committed to providing graduate students a positive and productive academic experience during their time with the Division. The committee encourages use of the mentorship tools recommended by the National Academies of Science, Engineering, and Medicine 2019 report titled [The Science of Effective Mentorship in STEMM](#). These practices promote effective, healthy mentorship relationships and experiences. Below are brief descriptions of these tools as well as links to resources for further information:

- **IDPs**, require mentees to think through their short- and long-term career plans and formulate a path to enact the plans with support from their Advisor. The GEC recommends use of AAAS's [myIDP](#), which is designed for scientists, and this article: Ben J. Vincent, Clarissa Scholes, Max V. Staller, Zeba Wunderlich, Javier Estrada, Jeehae Park, Meghan D.J. Bragdon, Francheska Lopez Rivera, Kelly M. Biette, Angela H. DePace (2015) Yearly Planning Meetings: Individualized Development Plans Aren't Just More Paperwork *Molecular Cell*, 58 (5): 718-721 <https://doi.org/10.1016/j.molcel.2015.04.025>
- [Entering Mentoring](#), this curriculum focuses primarily on mentorship in research training environments, and its stated aim is to help mentors, at all stages, develop and refine their mentorship abilities.
- **Lab Values Statement**, a document (usually online) that outlines expectations for lab members as well as guidelines for maintaining key lab values. Example statements: [King Lab](#) in DBS, [Hammond Lab](#) at MIT, [Puckett Lab](#) at the University of Memphis
- **Mentoring Compacts**, "provide a structure for mentors to outline expectations from, and commitments to, mentees, and vice versa. Compacts differ from an IDP, which focuses on short- and long-term career plans, as they are focused on expectations for the working relationship on a daily, weekly, or monthly basis." (Source: [The Science of Effective Mentorship in STEMM](#)).

### Professional Development

Students are strongly encouraged to seek professional development in areas that support their personal and professional goals. The Division covers some topics in its Graduate Seminar and Professional Skills courses. Additionally, the Graduate School offers a comprehensive series of free [courses](#), seminars, and [gradEssentials](#) workshops related to career development and exploration, research and innovation, teaching and learning,

communication and professionalism, inclusive excellence, health and wellness, leadership and community research. Students are strongly encouraged to take advantage of these opportunities.

## Forms

The student is responsible for acquiring and filing the proper forms for submission to the Graduate School during the course of their program. Forms are forwarded through the Division's DGS to the Graduate School by the semester deadline. Current versions of these forms are available on the Graduate Students Channel on the Division's Team site (Click on the Files tab and then the Forms folder) as well as on [Graduate School website](#).

Required Forms for the M.A. Degree

- M1 – Program of Study for the Master's Degree
- M2 – Request for Thesis Committee
- M3 – Report of the Master's Examining Committee
- M3A – Post-graduation Information (Division-specific form)

Required Forms for the Ph.D. Degree

- D1 – Qualifying Examination Results and Doctoral Committee Approval Form
- D2 – Plan of Study for the Doctoral Degree Form
- D3 – Doctoral Comprehensive Examination Results Form
- D4 – Report of the Dissertation Defense Form
- D4A – Post-graduation Information (Division-specific form)

Other Required DBS Forms

- Annual Report of Program Committee, this form is completed by the Primary Advisor after the student's annual meeting with their thesis/dissertation committee.

Other Commonly Used Forms

- Graduate Certificate Plan of Study
- Change of Committee Form
- Application for Graduate Change of Program, Degree, Emphasis or Advisor
- Plan of Study Substitution Form

## Travel Grants

[Division of Biological Sciences Travel Support Program](#) provides partial support for graduate students to participate in a conference, do field research, or attend workshops or specialized training. Priority is given to doctoral candidates who have passed their comprehensive exam and have a demonstrated record of service to and engagement with the Division. Applicants should have matching support from their Primary Advisor and are encouraged to seek matching support from other sources. Applications should be emailed to the Director of DBS by no later than one month prior to the activity for which funding is being requested. Click [here](#) for application.

[Dr. Philip and Betty Jen Neuroscience Student Travel Award Fund](#) are awarded to neuroscience graduate students in the Division of Biological Sciences (with or without affiliation with the Interdisciplinary Neuroscience Program). The award shall be used for student travel expenses to attend professional meetings and/or conferences. Support is limited to airfare or mileage and registration costs. Applications should be submitted to the Director of the Division of Biological Sciences no later than one month prior to the meeting. Click [here](#) for application.

Additional travel scholarships for graduate students are available from the [Graduate School](#), the [Graduate Professional Council](#), the Douglas D. Randall Young Scientists Development Fund, and the [Trans-World Airlines Scholarship](#).

## Graduate Student Awards

[Ethel Sue Lumb Award](#) is awarded to graduate students in the Division of Biological Sciences in recognition of scientific merit. Eligible graduate students must have recently completed their comprehensive exam and/or their coursework, be more than one year away from graduation, and demonstrate financial need by completing a FAFSA. Selected recipients will receive a framed certificate and a one-time \$2,000 award added to their stipend.

Additional graduate student awards include the [Dissertation Year Fellowship](#), [Distinguished Thesis and Dissertation Award\\*](#), [Donald K. Anderson Graduate Teaching Assistant Award\\*](#), [Donald K. Anderson Graduate Research Assistant Award\\*](#), [Sandra K. Abell Science Education Award](#), and the [Mary Elizabeth Gutermuth Award for Community Engagement](#) are available from [Graduate School](#), as well as the [J. Perry Gustafson Award for Outstanding Graduate Research in the Life Sciences](#) from the Douglas D. Randall Young Scientists Development Fund.

\*Division-nominated award – students who wish to be considered for this award should notify the DGS by November 30. Candidates will be asked to provide appropriate materials for the GEC to make a decision about who to nominate for the award.

### **Extracurricular Involvement**

Involvement in the academic life of the Division and campus is an important part of the graduate education experience in the Division of Biological Sciences. Participation is considered when making decisions about nominations for Divisional/campus awards and Divisional travel grants.

### **Divisional Involvement**

Graduate students are expected to regularly participate in the following Divisional activities:

- DBS Seminar, held Thursdays from 3:00-4:00 in Tucker 111
- Graduate Student Seminar, held Tuesdays from 3:00-4:00 in Tucker 111
- Biology Graduate Student Association, meets monthly after Grad Seminar in Tucker 111; also has a [Slack](#) site
- Peer Mentoring (for incoming students)
- Annual Research Retreat, held during the Fall semester (September 6, 2024)
- Community Checkup Survey (conducted every Spring semester)
- Ceremony for graduate students who have completed their degree (held in May)
- Graduate recruitment events
- Graduate welcoming events

The Division also offers opportunities for student participation on several committees, including the Graduate Education Committee, Divisional Seminar Committee, and ad hoc faculty search committees. Students interested in participating on any of these committees should let the DGS or GEC know.