Texas A&M University

Faculty of Genetics and Genomics

2025 - 2026

First-Year Graduate Student Handbook

http://genetics.tamu.edu

Faculty of Genetics and Genomics

Texas A&M University

Please submit any suggestions or corrections to the Genetics and Genomics Office, Room 109A Biochemistry/Biophysics Building or to ***genesec@tamu.edu***

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HOWDY!

We are pleased you have chosen the Interdisciplinary Graduate Genetics and Genomics (GGEN) Program of Texas A&M University to pursue your graduate studies. This handbook describes the doctoral program, your expectations, and information about registration, procedures, and program research infrastructure. Please note, however, that the 2025-2026 TAMU Graduate Catalog is the official document stating the rules and regulations under which your pursuit of a graduate degree is to be conducted. We strongly advise that you read the academic expectations and Genetics sections under Interdisciplinary Degree Programs (Doctoral), which list the steps toward obtaining a Ph.D. and deadlines.

Again, we speak for the whole Faculty of Genetics and Genomics in extending our warmest welcome to you, our new students, and colleagues. Have a good and productive year!

Zach N. Adelman, Ph.D.
Chair, Faculty of Genetics and Genomics

David Threadgill, Ph.D.
Past-Chair, Faculty of Genetics and Genomics

Fatma Ozair
President, Genetics and Genomics Graduate Student Association

TEXAS A&M UNIVERSITY

Texas A&M University is a public institution and flagship of the Texas A&M University System dedicated to developing and disseminating knowledge in diverse academic and professional fields. The University is committed to assisting students in their search for knowledge to help them understand themselves and their cultural and physical environment and to develop the wisdom and skills needed to assume responsibility in a democratic society. The University assumes as its historic trust the maintenance and enhancement of an intellectual environment that encourages the development and expansion of the human mind and spirit. While continuing to fulfill its mission as a Land-Grant/Sea-Grant/Space-Grant institution, the University is evolving and expanding its role to meet the changing needs of state, national, and international communities as a member of the Association of American Universities, an international organization of pre-eminent research-intensive universities.

Established in 1876 as the first public college in the state, Texas A&M University has become a world leader in teaching, research, and public service. Texas A&M has a long history of genetics education, with the first graduate degree in genetics awarded in 1919. It is located in College Station in the heart of Texas and is centrally situated among five of the country's 12 largest cities - Dallas, Fort Worth, Houston, Austin, and San Antonio. For the Fall 2024 semester, enrollment was 79,114, making Texas A&M the largest university campus in Texas and the third largest in the United States. Students at Texas A&M represent 243 of 254 Texas counties, all 50 states, and 137 countries.

KEY ADMINISTRATIVE FACULTY AND STAFF

Zach Adelman, Ph.D., Program Chair, FOG……979-321-5781
Email: zachadel@tamu.edu, Office: Heep Center, Room 329A

David Threadgill, Ph.D., Past-Chair, FOG……..……..……979-321-7063
Email: dwthreadgill@tamu.edu, Office: Norman E. Borlaug Building

Isabel Caballero, Ph.D., Program Manager/Outreach Chair……..……979-458-2284
Email: icabal@tamu.edu, Office: BICH Building, Room 109A
Responsibilities: Oversees academic milestones, prepares internal/external reports, fellowship nominations and transitions, develops career development initiatives, liaises between GGEN, Depts, Colleges, the Grad School, and leads outreach and recruitment efforts.

Amanda Joseph, Program Coordinator I……..……979-458-2284
Email: amandajoseph@tamu.edu, Office: BICH Building, Room 109A
Responsibilities: Coordinates first-year lab rotations, provides day-to-day student support, organizes events (Orientation Week, G2 Seminars, Recruitment Week, and on-campus student recruitment activities), and is the first point of contact for admission inquiries.

If Dr. Adelman is out of town and a signature is needed, the following faculty have signature authority:

David Threadgill, Ph.D., Past-Chair, FOG……..……979-321-7063
Email: dwthreadgill@tamu.edu, Office: Norman E. Borlaug Building, Room 428

THE GENETICS AND GENOMICS GRADUATE STUDENT ASSOCIATION (GGSA)

PURPOSE OF THE ORGANIZATION

The Genetics and Genomics Graduate Student Association (GGSA) is an advocacy and social group for graduate students with a research interest in Genetics and Genomics. A member of the GGSA must be enrolled with graduate classification at Texas A&M University, classified as a Genetics and Genomics major, and in good standing with the University. Incoming students to the Interdisciplinary Graduate Program in Genetics and Genomics are automatically members of the GGSA and are encouraged and welcome to attend meetings. The organization meets each month to socialize and provide moral support to one another, discuss any academic issues they may have within the Genetics and Genomics Program, and address larger issues within the University. The GGSA has representatives on the Advising Committee, G2 Seminar Committee, Outreach Committee, and Executive Committee of the Faculty of Genetics and Genomics. In that capacity, they can report challenges students face within the program, for which the Executive Committee of the Genetics and Genomics Faculty can work to build solutions. University-level issues are routed to the Graduate Student Council (GSC). The GGSA also organizes events such as the Spring Picnic, holiday parties, Tailgate Party, and many other monthly socials. A list of current students serving as officers and on committees in the GGSA can be found at:

https://genetics.tamu.edu/current-students/student-association/

THE INTERDISCIPLINARY PROGRAM IN GENETICS AND GENOMICS (GGEN)

The Doctor of Philosophy (Ph.D.) Graduate Program in Genetics and Genomics (GGEN Program) provides students with specialized training through coursework, research, and teaching. The program has established requirements in these areas that must be satisfied by all students. These requirements exist so that graduate students will thoroughly understand their area of specialization and have intensive experience in their particular field of research.

The Graduate and Professional School ('The Grad School') establishes additional requirements for graduate degrees. In most cases, the GGEN Program requirements are more stringent than The Grad School requirements.

Your responsibility as a graduate student is to ensure you have met all program and university requirements for your degree. The purpose of this handbook is to describe both the programs and the university requirements so that you have a single, accessible reference that applies to students in your cohort year. Any future rule changes to the handbook will not apply unless the GGEN Office informs you that the change affects all students. **Please keep this book handy and refer to it as you pursue your degree.** For additional information, contact Dr. Isabel Caballero at the GGEN office in the BCBP building, Room 109A; e-mail: icabal@tamu.edu; Tel: (979) 458-2284.

To ensure that all students are making adequate progress toward their degrees, the Faculty of Genetics and Genomics has established a schedule for meeting specific requirements. This schedule allows students to make reasonable progress toward a degree while assuring that students meet all major requirements in a timely fashion. Additionally, it enables the Faculty of Genetics and Genomics Executive Committee to perceive and correct problems experienced by students.

Lab Rotations

All students must complete three laboratory rotations during their first semester, independently of you having a lab preference. Rotations acquaint new students with the research programs in their area of interest, providing training in methods used in modern genetics and valuable contacts in other labs. Rotations also ensure students experience the work environments of labs they may consider joining; a lab that sounds interesting on paper may not use a mentoring style that fits your personality. It is very important that all 3 rotations be treated seriously as a potential research home. Upon arrival, students receive written information about the research program in each professor's laboratory and have the opportunity to interact with faculty during panels and mixers scheduled during orientation. Following the new student orientation, students will submit names of three laboratories to genesec@tamu.edu disclosing where they would like to perform their first rotation. Requests for the second and third rotations will be due approximately one week before these rotations begin. Rotating students enroll for up to 2 hours of credit in GENE 685 Directed Studies. If, after 3 lab rotations, the student has not decided on a permanent lab, they can do a 4th rotation in the second semester. The professor hosting a rotation student will assign A-F grades and provide a written evaluation of the student's work in that lab. Before beginning the next rotation, students should discuss their evaluation with their rotation chair. This information helps the students improve their performance. For more information about this year's rotation schedule and due dates, see **Appendix I.** Forms used for lab rotations can be found in **Appendix II** of this handbook.

How to choose a laboratory

The GGEN program advises students to consider many factors in choosing a permanent laboratory, and evaluation of each of these should occur during rotations. In no particular order, the first is the most straightforward and concerns the research focus and the scientific activities in the particular laboratory. Second is the PI's mentoring style, experience, and support. This is an individual who you will be working closely with throughout your degree, and this, in turn, depends on mutual trust and respect. Third is

the working interactions with other members of the laboratory. These will be your colleagues, providing hands-on training and assistance as you complete your degree. Depending on the situation, they can be either a source of support or a source of stress, so make sure the work environment suits your learning style. New students attend the GGEN Faculty panels during Orientation Week to inform their decisions about joining a particular laboratory. They also attend one-on-one meetings with professors to consider their work, potential projects, and stipend sources. Talking with lab members helps new students understand whether the PIs mentoring style matches their needs.

Once you begin a laboratory rotation

During your laboratory rotations, spend as much time in the lab as possible and talk with all lab members. Having more information will help you determine whether the environment in the laboratory, including daily interactions with the professor and research personnel, is desirable for your doctoral work.

Grading

The GGEN faculty will submit written reports of the laboratory rotations to the GGEN Office (see **Appendix II**, Rotation Student Evaluation – Faculty Response Form). These reports include information on students' time commitment, enthusiasm, perseverance, and interactions with laboratory personnel. This information is crucial in determining whether a student will join a particular laboratory. Because the Ph.D. is primarily a research degree, productive and interactive lab rotations are critical in setting the course of a career as a research scientist. Even if students decide not to join a particular lab, they should continue to work hard on the rotation project. Students will learn, gain experience, and establish a good reputation. In addition, students also evaluate the rotation laboratory and PI (see **Appendix II**, Rotation Faculty Evaluation – Student Response Form).

Duration

Each laboratory rotation period is approximately 5-weeks long, with the first rotation beginning at the start of the fall semester (see exact dates in **Appendix I** - *Lab Rotation Schedules & Due Dates*.

Instructions

Students submitting the first laboratory rotation preference list should follow these steps:

1. Attend the faculty panels during Orientation Week and other scheduled times.
The faculty panels are an excellent opportunity to learn more about the different research opportunities in the GGEN Program, and they will help in making informed decisions about lab rotations.

2. Set up meetings with *at least* five faculty members to discuss completing a laboratory rotation in their laboratory during the fall semester.
Begin to set up these meetings as soon as possible. Immediately after faculty members speak during panel discussions is a good time. Remember, if you delay, the faculty may not have the time to meet with you before your preference list is due.

3. Meet privately with faculty members.
Failure to meet with faculty members delays the laboratory rotation assignment process for yourself and your classmates. The GGEN Office will verify that you met with the faculty members on your list.

4. Have each of the five faculty members you meet to sign a *Faculty Confirmation* form (See **Appendix II**)
When faculty sign the *Faculty Confirmation* form, they do NOT commit to taking you into their laboratory for a laboratory rotation. The form simply states that you met with the faculty member to discuss completing a laboratory rotation in the laboratory.

5. Submit your *Preference List* of exactly three faculty names in RANKED ORDER for the FIRST ROTATION to genesec@tamu.edu, along with *Faculty Confirmation* forms.

The deadline for submitting your first rotation preference list is *Wednesday, August 27, 2025, at 10:00 AM.* You must submit the *Preference List* by the deadline. **NO EXCEPTIONS. NO EXCUSES**. The *Preference List* forms are included in **Appendix II** of this handbook and fillable-forms are available on the resources page on the Genetics Website.

Lab rotations will be assigned according to the preference lists insofar as possible, subject to the approval of the faculty involved. A laboratory assignment list will be distributed by email before the rotation begins.

6. A new Preference List with the names of *three* faculty members in RANKED ORDER needs to be submitted before the **second rotation**, and again before the **third rotation,** according to the schedule in **Appendix I**.

7. Before the second and third lab rotations, you are strongly encouraged to meet with additional faculty members to discuss other rotation opportunities. You are also required to attend any additional faculty talks during the fall semester because there are new faculty joining the program. It is very likely that the initial list of preferences you submitted before the first rotation will change as you learn more about the program and research opportunities at Texas A&M.

Choice of Major Professor

Students will identify a Major Professor by the end of the first semester, allowing them to begin research in earnest toward the Ph.D. degree in the second semester. After discussing opportunities with their rotation professors, all students will provide the GGEN

Office with a rank order of their choice for major professors using the forms provided in **Appendix II**. The Advising Committee will match students with a Major Professor based on the student and professor's preferences and after reviewing funding plans. If an additional rotation is needed to find an appropriate lab, students can perform this rotation in the spring semester. Occasionally, working equally under the direction of two faculty members can enhance a student's graduate experience. If you are considering using this option, you must choose a Major Professor and a co-PI. To accept a Genetics Student, the Major Professor must sign the Expectations for Graduate Student Training and Support in **Appendix III.** Finally, the student and Major Professor are strongly encouraged to discuss **t**he GGEN Mentorship Compact form provided in **Appendix IV**.

Timeline of Milestones

All GGEN Ph.D. graduate students should follow the schedule listed below (the semester refers to a regular 17-week semester and does not include summer terms). For more detailed information, please see **Appendix V**, Expectations of Genetics and Genomics Graduate Students.

Choice of Major Professor	End of First Semester
Degree Plan Filed with the Grad School.	Before Third Semester
Proposal/Preliminary Examination.	By End of Fifth Semester
Final Defense	By End of Fifth Year

We expect that all students will adhere to this schedule. Students not meeting deadlines will be contacted by the Chair of the Faculty of Genetics and Genomics and the GGEN Office to inquire about the issue. In most cases, a letter from the student's major professor to the Chair of the Faculty of Genetics and Genomics explaining why the schedule was not met and providing a solution will be sufficient for continuation. **If no plan is developed or if students experience recurring problems in meeting the schedule, course**

registration may be blocked. In these cases, the Faculty of Genetics and Genomics Chair will meet with the student's major professor.

Graduate studies are demanding. You are no longer an undergraduate. Graduate studies are no less demanding than a professional degree. If anything, they are far more challenging because your day will not be scheduled like in a professional curriculum. Instead, you MUST be self-motivated to succeed. You receive almost $50,000 per year in salary, tuition, and fees to earn your degree, most coming from your Major Professor's research grants having specific deliverables for which they are responsible. If you approach graduate studies as an 8:00 AM – 5:00 PM job or with the flexibility of an undergraduate, you likely will not finish your degree. Your days should be used for classes and lab work. Any work required for your courses should be done in the evening or on weekends and not substituted for lab time. At a minimum, while taking 9 credit (CR) research hours, you are in essence being paid for 47 hours per week (20 hours through your stipend and 27 hours for your research-related education [9 CR research hours x 3 hours for each CR]. Even when not enrolling in credit research hours, your time in the lab is critical to your success.

Thesis Committee

A Thesis Committee supervises a student's coursework and research, examines a student's progress, and approves documents required for the Ph.D. degree. The Thesis Committee, chaired by the Major Professor, is the primary source of direction and support for a student's research. The Thesis Committee should be constituted early in the Spring semester after choosing a Major Professor to give the students maximum input. The Thesis Committee must have at least three members besides the Major Professor, and at least one member must come from outside your "home" department. **Only the Major Professor MUST be a FULL member of the Faculty of Genetics and Genomics.** The Thesis Committee will advise the student about the degree plan, read and critique the research proposal and thesis dissertation, and administer the preliminary and final exam. The interactions during the required Annual Committee Meetings allow committee

members to engage in mentoring and training and resolve disputes between students and mentors if they arise during their studies. In selecting committee members, the student needs to consider that while some committee members are desirable because they are experts in their research area (so that they can provide useful advice and potentially write knowledgeable letters of recommendation when you graduate), others may be selected due to unique attributes regarding differences in background, mentoring style, professional connections (industry, medicine, government, etc.) or other reasons that the student can justify.

Annual Committee Meetings

All graduate students must have at least one committee meeting each academic year during years 1 through 5. After year 5, the student must meet twice yearly to ensure adequate progress toward the PhD degree. The GGEN Program uses a GENE Committee Sign-Off form to provide annual feedback to the student. Students will also submit data regularly to the My Grad Journey website (https://mygradjourney.tamu.edu/), such as information on publications, meetings, and presentations, to assist them in achieving their career goals. Also, the program asks students to engage in programming designed to facilitate career success, such as completing the Individual Development Plan (IDP) and participating in Career Club and Career Development Sessions. **Failure to meet these expectations will result in a registration block for the following semester.**

What to Expect from Your Committee Meetings

Your committee is composed of your PI and people who have complementary expertise. You'll meet with your committee at a minimum annually (years 1- 5) or bi-annually (> 5 years) to receive feedback on your project. At the same time, they receive updates about your progress and provide feedback accordingly.

1st Committee Meeting (End of Spring 2026): After looking into potential mentors who can serve on your committee and in consultation with your advisor, you will schedule your first committee meeting. Keep in mind that it is not easy to agree on a date/time when people have different schedules. Start reaching out to them early – there are several scheduling aids you can use (e.g., When2Meet, Doodle, etc.).

Ideally, you will have a date/time set up by Spring Break. You decide with your PI whether a formal presentation is appropriate because you might still be thinking about a topic for your project. At the meeting, you will discuss the GENE elective courses they recommend for you to take. Please remember that you have 17 CR of GENE required courses and 9 CR of GENE electives. For an updated list of classes, you can consult our website: https://genetics.tamu.edu/current-students/required-courses/

Action Items

- Get feedback from your committee (your advisor will complete the GENE Sign-off form) and Dr. Caballero will route it to you)
- Submit your degree plan, including your committee members and the courses you plan to take.

2nd Committee Meeting (End of Spring 2027 or earlier): In this meeting, you will update your committee about your academic progress (courses you took, posters or oral presentations, service, etc.). You present ideas previously discussed with your advisor about your research questions. You will prepare for your preliminary exam by working on your project's theoretical and practical aspects. Discussing your research proposal topics and scope, as well as your preliminary exam format and timing, is advisable.

Action Items

- Get feedback from your committee
- Schedule a date for your preliminary exam.

3rd Committee Meeting/Preliminary Exam/Research Proposal (Fall 2027 or earlier): Once you decide on the preliminary exam date, you will update your committee about any further progress you have made since your last meeting. Two weeks before your exam, you will provide your committee with a draft of your research so they can provide feedback to you during the meeting. Your committee will try to determine whether you have achieved the knowledge required to (broadly) discuss your topic. Be sure to ask questions; your committee members want to help you.

Action Items

- Get feedback from your committee
- After receiving feedback from your committee about your research proposal, discuss it with your advisor and submit it.

4th Committee Meeting (Spring 2028 or earlier): Provide updates to your committee about your academic progress via My Grad Journey Website (course progress, posters or oral presentations, service, and other activities). You should have a

reasonable timeline for finishing your studies by this time. Discuss this with your committee -they will provide helpful input!

Action Items

- Get feedback from your committee. Check that you are up to date with GGEN requirements for the PhD degree.

5th Committee Meeting (Spring 2029 or earlier): Provide updates to your committee about progress with your chapters and plan to discuss the timeline for your defense. Update the committee about attendance at meetings, grant submissions, and draft publications.

Action Items

- Get feedback from your committee
- Check that you are up to date with GGEN requirements for the PhD degree.

6th Committee Meeting (Summer 2030 or earlier): Final defense. Your committee should receive your dissertation at least three weeks before your final exam so they can provide comments and suggestions.

Action Items

- Make corrections to your dissertation and submit it.
- Complete Student Learning Outcomes Self-evaluation from the College of Agriculture and Life Sciences
- Complete graduation steps

Note that these are the minimums, you can meet with your committee more often as you need to.

Annual Meeting with the GGEN Program Manager

All students must meet at least once a year (or more if needed) with Dr. Isabel Caballero to review academic milestones (degree plan, preliminary exam, research proposal, final exam, and dissertation), funding transitions, career development activities (Individual Development Plan), or potential issues arising during their studies.

ACADEMIC MILESTONES

Degree Plan

The Degree Plan establishes course work and research hours to be completed by a student during graduate study. The courses, which constitute the degree plan, are decided upon by the student in consultation with the Major Professor and Thesis Committee. The minimum number of hours required on a Ph.D. degree plan is 64 for students with an M.S. degree awarded in the U.S. (or its equivalent as determined by the Office of International Admissions). Students entering without an M.S. degree or with an M.S. degree that is not the equivalent of an M.S. in Genetics awarded in the U.S. should have 96 hours on their degree plan. Course requirements are in **Appendix VI** of this handbook.

Limitations on using undergraduate, seminar, and transfer courses are detailed in the Graduate Catalog. The student initiates the degree plan through an online submission process in DPSS. It is checked by Dr. Isabel Caballero and signed electronically by the Thesis Committee members and the Faculty of Genetics and Genomics Chair. The student must file a degree plan after having their first Annual Committee Meeting or by the end of the third semester. **Students failing to meet these deadlines will be blocked from course registration by The Graduate School.**

Preliminary Examination

The preliminary examination includes a written and oral examination in which the student's Thesis Committee tests the student's ability to think critically in the context of their field of specialization and beyond. Students should schedule their preliminary examinations before the end of their fifth semester of graduate study. Students must have current cumulative and degree plan GPR's of AT LEAST 3.00 to be eligible for the exam.

The exam is given no earlier than a date when students are within approximately 6 CR of completing their formal coursework (i.e., all coursework on the degree plan except for the GENE 681, 684, 690, 691, and 697 courses) or no later than the semester following the completion of the formal course work on the degree plan. The request for the preliminary examination is initiated by the student in the Academic Requirements Completion System (ARCS). The student is responsible for scheduling written exams with each member of their Thesis Committee. Individual members of the Thesis Committee may elect to accept the research proposal in lieu of a specific written exam.

Once all portions of the examination are completed, the **Major Professor,** and members of the Committee will grade (Pass/No Pass) in ARCS. If post-review of the exam by the Graduate School reveals that eligibility requirements were not met, then the student and the Major Professor will be notified of necessary actions (such as repeating the exam) required to rectify any deficiencies. Upon acceptance of a passing preliminary exam by The Graduate School, satisfying the residence requirement, and completing your graded courses (required and electives), you will be considered a ***candidate for the Ph.D. degree***. **After passing the required preliminary examination, the student must complete all remaining requirements for the degree within four calendar years. Otherwise, you must request an extension of time limits before scheduling the final examination (defense).**

If the student fails the preliminary examination, there is no obligation for a re-examination. At their discretion, the Thesis Committee (with no more than one member dissenting) may allow one re-examination when adequate time has passed to allow you to address inadequacies emerging from the first examination (usually six months to 1 year).

Eligibility Requirements that Cannot be Waived:

1. You must register for the semester during which you plan to take either the preliminary or the final examination (or in which any portion of the exam may fall).
2. You must have an approved degree plan on file with The Graduate School.

3. You must have a cumulative GPR of 3.00 or above.

4. You must have a degree plan GPR of 3.00 or above.

5. You must have satisfied English language proficiency requirements (non-native English speakers).

6. You must have given your Thesis Committee a copy of your written proposal **no later** than 2 weeks prior to the oral exam.

7. All committee members must have scheduled or waived the written portion and agreed to attend the oral portion of the exam or have found a substitute. Only one committee member substitute is allowed, and it cannot be the Student's Major Professor.

Research Proposal

The research proposal describes the study a student intends to undertake. It allows students to plan their graduate research projects and become familiar with the literature in that area. Proposals launch a student into a research project and are thus only effective if completed early in the graduate career. For this reason, proposals should be completed and submitted before the end of the fifth semester. In the research proposal, the student describes the research project rationale and objectives and outlines the techniques to be used. Proposals should be no more than ten pages long, not counting references, and follow the format used by a federal funding agency relevant to the student's work (generally NIH). The research proposal is submitted in ARCS, then reviewed by Dr. Caballero, approved by the student's Thesis Committee, and signed by the Chair of the Faculty of Genetics and Genomics. Proposals that include research with vertebrate animals (including antibody generation in rabbits or mice) must enclose a copy of an approved Animal Use Protocol cover page. The proposal is not a contract to perform the described research, and significant research progress need not be completed at the time of proposal submission. Instead, it is a mechanism to assist students in clarifying research goals early in their graduate program. It also encourages students to become familiar with the primary literature in their field, provides them with technical writing experience, and facilitates research interactions between students and members of their Thesis

Committee. **The written research proposal must be given to the student's committee members no later than 2 weeks before the preliminary exam.**

Final Defense

The final defense allows the student's Thesis Committee the opportunity to evaluate a student's understanding of their research. The final defense consists of a formal public seminar of results presented by the student announced two weeks in advance. The presentation is followed by a private oral examination of the Ph.D. candidate by their Thesis Committee. Final changes to the dissertation are discussed at this time. The final defense must be held within four years of advancement to candidacy. The defense should be scheduled at least four weeks before the Grad School deadline for submission of dissertations to the Thesis and Dissertation Services. Adhering to this timeframe will allow adequate time for revisions and approvals from the student committee members and the GGEN Program Chair.

The Written Dissertation

1. Graduate studies culminate with the dissertation, which describes a student's research and outlines the unique contribution a student has made to expanding the frontiers of knowledge.
2. The dissertation describes the research undertaken by a student during graduate study.
3. The content of the dissertation is established by the student in consultation with the Thesis committee.
4. The dissertation should be submitted to the student's Thesis Committee for review at least three weeks prior to the Final Defense.
5. The student's Thesis Committee approves the dissertation, and they may request changes/edits before approving the dissertation.
6. The format of the dissertation is very precisely controlled by The Graduate School.

7. Students must refer to the Thesis Manual guidelines and follow them exactly or risk having their manuscript rejected by the Thesis Clerk.
8. The dissertation requirements can be found at the Thesis and Dissertation Services site: https://grad.tamu.edu/knowledge-center/grad-student-resources/pre-submittal-requirements
9. After the committee approves the dissertation in ARCS, the student submits it as a single PDF file to Vireo (Thesis and Dissertation Submission System), which will check for format errors and may require several edits.
10. DO NOT WAIT until the last minute to submit your dissertation to Vireo.
11. If you are an international student, it can take around 1 month for your thesis to be cleared by the Thesis and Dissertation Services, which must happen BEFORE International Student Services (ISS) can write any letters needed to begin a postdoc/job in the United States.

Deadlines. Research proposals and dissertations requiring the Thesis Committee approval must be submitted via ARCS at least two weeks prior to The Grad School submission deadline. It is critical not to wait until the last minute, considering faculty members may be out-of-town or unavailable. These are essential documents required to make progress in your career. International students may need additional time for ISS paperwork to process after The Grad School clears the final dissertation.

REQUIREMENTS FOR THE PH.D. DEGREE

Peer-Reviewed Publication Requirement

GGEN Ph.D. candidates must have at least one first-author peer-reviewed publication accepted before scheduling the Final Defense. The Doctor of Philosophy degree is awarded based on the generation of new knowledge, demonstrated by publication in the peer-reviewed literature in the field of Genetics and Genomics. If a

manuscript is under revision or has been placed on a pre-print server, an exception to schedule the Final Exam can be requested from the GGEN Program Chair.

In publications authored by a student in the Interdisciplinary Graduate Program in Genetics and Genomics, the student's affiliation should be listed as the "Interdisciplinary Graduate Program in Genetics and Genomics." The student's home department can be listed as an additional affiliation if desired.

MINIMUM CREDIT HOURS

All students must maintain continuous enrollment throughout their graduate careers. They must enroll for at least one credit hour every regular semester (Fall and Spring) while working towards their degree. Continuous enrollment is required regardless of a student's source of support. All students using university facilities must enroll for a minimum of one credit hour.

Spring and Fall

All graduate students receiving Assistantships must register for a minimum of 9 credit hours during the Fall and Spring semesters throughout their graduate career.

Summer

All graduate students receiving assistantships must enroll for a minimum of 6 credit hours during the summer. The requirement is 3 credit hours during any one summer session in which you are enrolled or 6 credit hours during the two summer sessions in which you are employed.

If you are unsure which GENE 691 (research) section you should register for (in any semester), please contact the GGEN office. Students wishing to graduate early may need to register for more hours per semester to have enough credits to graduate. For the summer session, the maximum number of GENE 691 credit hours in each 5-week term is

6, and in each ten-week term, the maximum is 10. So, to register for twelve hours, you may register for two 6-hour, 5-week terms. Students may substitute 691 sections offered by their home departments in lieu of GENE 691; in these cases, please confer with GGEN program staff prior to enrolling.

Full-time status

Graduate students receiving assistantships are considered full-time students if registered for at least 9 credit hours during a fall or spring semester. In summer, full-time students must register for 6 credit hours during a 10-week term, or 3 credit hours during a 5-week term. The GGEN Program is exempt from the 100-credit hour cap.

Minimum GPR

The Graduate School calculates two GPRs: a Graduate GPR comprising all courses taken and a Degree Plan GPR incorporating courses added to the degree plan. It is expected that both a student's Graduate GPR and Degree Plan GPR will remain at or above 3.00 during their graduate career. When either GPR drops below 3.00, a student will be given a one semester probationary period to restore it to 3.00. If this is not achieved, the student must meet with the Major Professor to determine whether the student should remain in the GGEN Graduate Program. If the student has not chosen a Major Professor at this point, the Chair of the Faculty of Genetics and Genomics will consider scholastic probation (see below) based on evaluations from lab "rotation" professors and grades at that point. A student will not be allowed to take the Preliminary Exam, advance to candidacy, or give the Final Defense if either GPR is below 3.00.

Scholastic Probation

When students become scholastically deficient, they may obtain conditional permission to continue in the degree program. For graduate students, this permission is granted by

the GGEN Program Chair. The student's record while on probation determines whether they shall be cleared to register as a regular student, be granted a continuation on probation, or be suspended, dismissed, or terminated from the University because of scholastic deficiency. The graduate student may be informed in writing of the terms of probation and may be required by the Major Professor or in consultation with the Chair of the Faculty of Genetics and Genomics to register for a prescribed schedule of courses. Hours and GPR requirements shall be made consistent with the student's progress toward graduation. The specified hours and grade points are a minimum only. In addition to course work, a graduate student may be required to demonstrate progress toward completion of the degree by completing specified examinations and/or specified milestones in research or other independent study leading to completion of the dissertation. A graduate student will remain on probation until the terms of the probation are accomplished AND the Graduate Advisory Committee and the GGEN Program Chair recommend that the probation be lifted. A graduate student blocked or suspended for scholastic deficiency may appeal such a decision through the Graduate Appeals Panel, following the procedures defined on The Graduate School website.

Teaching Requirement

All students must participate as a Teaching Assistant (TA) for two semesters. All students, regardless of their source of funding, must complete this requirement, as it is an essential aspect of professional training.

All incoming graduate students must complete TA training. Texas A&M University provides a mandatory TA training called Teaching Assistant Institute (TAI). All new graduate students will be registered and must attend TA training before the semester they will engage in TA duties. Additionally, Genetics TA's must register for one credit of GENE 697 (Teaching Genetics Labs) twice to fulfill their course requirements.

FINANCIAL SUPPORT

There are three forms of support for graduate students in our program: Graduate Assistant Teaching (GAT), Graduate Assistant Research (GAR) and Fellowships. GAT support comes from state-appropriated teaching funds. GAR support is funded by research grants and provided by individual faculty. Fellowship support may be provided by The Graduate School, Federal, or other sources and is awarded on a competitive basis.

To receive support, students must register for a minimum of 9 credit hours for the fall and spring semesters. For summer support, registration in a minimum of 3 credit hours per five-week summer session, or 6 credit hours for the 10-week session is required.

TEXAS A&M UNIVERSITY RESEARCH CORE FACILITIES

Texas A&M's research budget for fiscal year 2023 was more than $1.278 billion, ranking Texas A&M in the top 20 of the National Science Foundation's Higher Education Research and Development Survey and first in the Southwest.

The University's 5,200-acre campus, which includes a 434-acre research park, is one of the largest in the nation and is valued at more than $1 billion. In addition to the College Station campus and the Bryan Health Science Center Campus, the university has branch campuses in Houston, Galveston, and Doha, Qatar, and operates the Soltis Research and Education Center near the town of San Isidro, Costa Rica, the Santa Chiara Study Center in Castiglion Fiorentino, Italy, and the Texas A&M University Center in Mexico City.

Texas A&M also supports a wide range of core facilities housing cutting-edge equipment and technological capabilities to support genetic, genomic, molecular biology and bioinformatics research and training. Core facilities provide critical resources for groundbreaking research, ensuring more efficient resource utilization, shared research facilities are a cost-effective way to leverage research expertise and specialized instruments. Core facilities provide a dedicated space and specialized scientific equipment. Additionally, staff scientists provide field-specific expertise, research service, technical support, and graduate students and research staff training. Core facilities primarily serve Texas A&M researchers, though many facilities welcome outside users from the broader scientific and industrial community. Texas A&M offers more than 50 core facilities (see **Appendix X**).

If you want to know more about Texas A&M Core facilities, please contact Ashlyn Montgomery, Research Infrastructure Manager, at amontgomery@tamu.edu or call at 979-845-1182.

BRYAN/COLLEGE STATION

Bryan/College Station is in Brazos County in east-central Texas, about 140 miles from the Gulf of Mexico. It lies in an area known as the Post Oak Belt, and there is a prevalence of post oak, blackjack oak, elm, and hickory trees. The terrain is characterized by gently rolling hills. Bryan/College Station are "sister cities" located in Brazos County with a combined population of 273,101 in 2019 with the 13th-largest metropolitan area in Texas.

The climate is classified as humid sub-tropical with hot summers. The average annual temperature is 68 degrees with average humidity at 71%. Winters are mild, with short spells of cold weather, lasting two to three days. Occasionally, the temperature can drop as much as 30 degrees in one hour; these are caused by polar Canadian air currents and are termed "Blue Northers." Snow is rare. Spring weather is variable with many thunderstorms. Summer is essentially invariable, with an average maximum temperature of 94 degrees and high humidity (it gets hot and stays hot!).

Housing

Housing in Bryan/College Station is plentiful, but it is important to start looking early for accommodation that is satisfactory and affordable. There are several services that can help you find a place to live. Do not forget that it will get hot, and air conditioning is a must!

The Off Campus Student Housing Office is on main campus. You can call (877) 895-1234 during the hours of 8am - 5pm, Monday through Friday. In addition to publishing The Off Campus Survival Manual, this department has a number of useful services such as Adult and Graduate Student Services, Women's Programs, and the Housing Vacancy Listing through AggieSearch which is a listing of houses, apartments, duplexes, rooms in houses, mobile homes and condominiums. This office also has roommate referral services and tenant/landlord rights and responsibilities information. In addition, the Off Campus

Student Housing Office conducts surveys of apartment prices around town and has useful maps and other information for you.

Transportation

The Bryan/College Station area is serviced by the Easterwood Airport (CLL) on the TAMU campus. Daily flights are available on American Airlines from Dallas-Fort Worth International Airport (DFW). A shuttle service is available to and from Houston. Like most moderate-sized US cities, public transportation is available in Bryan/College Station. However, a car, or access to a car, is still very helpful. Uber and commercial taxi services are available throughout the area. Area transportation provides can be found at the Bryan/College Station Convention and Visitor Bureau site using this link: https://visit.cstx.gov/about-us/visitors-guide/.

Texas A&M provides extensive on- and off-campus bus systems that are free for all students. Maps, with real-time tracking of buses, and information on campus parking are available at the Transportation Services website (http://transport.tamu.edu). The TAMUMobile app is available for smart phones provides real-time bus tracking, route maps, virtual campus tours, event calendar and a variety of other useful information.

The Brazos Transit District provides hourly fixed bus routes throughout Bryan/College Station, which are free for all students. Unlike the TAMU bus system, which is focused on the TAMU campus, The District provides transportation to shopping and other destinations.

- Maps and timetables are available at: http://www.btd.org/fixed-routes/schedules/
- College Station bike maps: https://www.cstx.gov/bike
- Bryan bike maps: https://maps.bryantx.gov/bike/
- Veo Bike Share: https://transport.tamu.edu/Alternative/bicycles/bikeshare.aspx

Emergencies

In case of emergency, call 911 for an ambulance, the police, or a fire department. If you are calling from a campus telephone, you will need to dial 9-911, unless you are dialing from a TAMHSC building, in which case it is 8-911.

Health Care

Medical and psychological health services are available on campus at the University Health Services (Student Services Building). You can schedule an appointment online at https://uhs.tamu.edu/index.html or (979) 458-8310. Mental health resources can be found here: 24/7 Professional Counseling | After-hours Mental Health Support | Local Emergency Services

International Student Services

All International Students need to start interacting with the International Student and Scholar Services Office (ISSS) as soon as possible after accepting our offer. Please visit their website at https://global.tamu.edu/isss/ or use the ISSS Portal at: https://isssportal.tamu.edu/. You will need to log in using your netID and password.

APPENDIX I

LAB ROTATIONS SCHEDULE & DUE DATES - FALL 2025

1st Rotation	
Wednesday, Aug. 27	10 AM Deadline to submit the preference list for 1st rotation
Friday, Aug. 29	1st rotation assignments announced
Monday, Sept. 1	1st rotation begins
Friday, Oct. 3	1st rotation ends

2nd Rotation	
Monday, Sept. 29	10 AM Deadline to submit the preference list for 2nd rotation
Friday, Oct. 3	2nd rotation assignments announced
Monday, Oct. 6	2nd rotation begins
Friday, Nov. 7	2nd rotation ends

3rd Rotation	
Monday, Nov. 3	10 AM Deadline to submit the preference list for 3rd rotation
Friday, Nov. 7	3rd rotation assignments announced
Monday, Nov. 10	3rd rotation begins
Friday, Dec. 12	3rd rotation ends

Permanent Lab	
Monday, Dec. 8	10 AM Deadline to submit the preference list for permanent laboratory
Friday, Dec. 12	3rd rotation ends
Monday, Dec. 15	If possible, a permanent lab assignment is announced
January 2026	Students enter the new lab

Students follow the employee holiday schedule as listed below	
Labor Day	September 1, 2025
Fall Break	October 13 – 14, 2025
Thanksgiving	November 27 – 28, 2025
Christmas	December 24, 2025 – January 1, 2026
MLK, Jr. Day	January 19, 2026
Spring Break	March 9 – 13, 2026
Memorial Day	May 25, 2026
Juneteenth	June 19, 2026

APPENDIX II

LAB ROTATIONS FORMS

GENETICS FACULTY CONFIRMATION FORM

LAB ROTATION 2025

_____ has met with me to discuss completing

Name of Student

a laboratory rotation in my lab.

_____ _____

Name of Faculty Member *Signature of Faculty Member*

(Submit electronically to genesec@tamu.edu)

PREFERENCE LIST FOR 1ST LAB ROTATION FORM

These are choices for the first lab rotation, NOT for all three rotations. A new preference list must be submitted before each rotation. Students are strongly encouraged to talk to more than one professor for each rotation in case the first or second choice cannot be arranged.

Note: Lab rotation assignments are made in consultation with Principal Investigators.

Student Name: _____

Lab Choice for First Rotation

1. _____
2. _____
3. _____

Any additional information that would help with rotation assignments:

Student signature: _____

(Submit electronically to genesec@tamu.edu)

PREFERENCE LIST FOR 2ND LAB ROTATION FORM

These are choices for the second lab rotation, NOT for all three rotations. A new preference list must be submitted before each rotation. Students are strongly encouraged to talk to more than one professor for each rotation in case the first or second choice cannot be arranged.

Note: Lab rotation assignments are made in consultation with Principal Investigators.

Student Name: _____

Lab Choice for Second Rotation

4. _____

5. _____

6. _____

Any additional information that would help with rotation assignments:

Student signature: _____

(Submit electronically to genesec@tamu.edu)

PREFERENCE LIST FOR 3RD LAB ROTATION FORM

These are choices for the third lab rotation, NOT for all three rotations. A new preference list must be submitted before each rotation. Students are strongly encouraged to talk to more than one professor for each rotation in case the first or second choice cannot be arranged.

Note: Lab rotation assignments are made in consultation with Principal Investigators.

Student Name: _____

Lab Choice for Third Rotation

7. _____

8. _____

9. _____

Any additional information that would help with rotation assignments:

Student signature: _____

(Submit electronically to genesec@tamu.edu)

PREFERENCE LIST FOR FINAL LAB ASSIGNMENT FORM

Student Name: _____

Ranked Choices for Lab Assignment

1. _____
2. _____
3. _____

Any additional information that would help with lab assignments (for instance, if you are similarly interested in two of the faculty):

Student signature: _____

(Submit electronically to genesec@tamu.edu)

ROTATION STUDENT EVALUATION FORM – FACULTY RESPONSE

Score your response as follows: 1 poor; 2 fair; 3 average; 4 good; 5 excellent
1. The objectives of the project were clearly explained to the student.
2. The student appeared to have knowledge in this area.
3. The student was well prepared.
4. The student adequately answered questions proposed to him/her.
5. The student was able to discuss recent developments in the field
6. The student could apply concepts to demonstrate their understanding.
7. The student appeared to set high standards for himself/herself.
8. The student's understanding of the subject appears to have been increased during the rotation.
9. The student was informed of his/her progress
10. The student's progress in the lab seemed of a high priority for the student
11. I was satisfied with the student's accessibility within the lab.
12. I would recommend this student to one of my colleagues.

Student Name _____ Rotation Dates: _____

Grade for Rotation (A - F): _____

Would you consider taking this student into your lab for a thesis? Yes ___ No ___

(*This does not commit you to taking this student).* (Please check one)

Advisor's Signature: _____ Advisor's Name (print): _____

(Submit electronically to genesec@tamu.edu)

ROTATION FACULTY EVALUATION FORM – STUDENT RESPONSE

Score your response as follows: 1 poor; 2 fair; 3 average; 4 good; 5 excellent
1. The objectives of the project were clearly explained to me.
2. I felt well prepared for this rotation.
3. The professor adequately answered questions I proposed to him/her.
4. The professor discussed recent developments in the field.
5. The instructor had students apply concepts to demonstrate understanding
6. The professor sets high standards for students.
7. My understanding of the subject appears to have been increased.
8. I was informed of my progress in the lab by the professor.
9. My progress in the lab seemed of a high priority to this professor.
10. I was satisfied with the professor's accessibility within the lab.
11. The professor increased my interest in this area.
12. I would recommend this professor to one of my friends for a rotation.

Faculty Name: _____ Rotation Dates: _____

Would you consider joining this professor's lab for a thesis? Yes ___ No ___

(*This does not commit you to joining this lab).* (Please check one)

Student's Signature: _____Student's Name (print): _____

(Submit electronically to genesec@tamu.edu)

APPENDIX III

EXPECTATIONS OF GENETICS AND GENOMICS FACULTY

Members of the Faculty of Genetics and Genomics are expected to support the program by participating in a subset of the following activities:

1. Attending G2 Seminars
2. Hosting a speaker for the G2 Seminar
3. Participation in one of the G2 Committees
4. Participation in social events organized by the GGSA.
5. Volunteer to be the Primary or the Secondary Advisor of GGSA
6. Mentoring a Graduate Student. Note: a faculty that accepts a Genetics graduate student into their lab must first sign the Expectations for Graduate Training and Support form on the next page and the Mentorship Compact.
7. Teaching a graduate level GENE course
8. Participating in Genetics and Genomics student recruitment events
9. Serving on the thesis committee of a Genetics and Genomics graduate student.

2025 Expectations for Graduate Student Training and Support Form

The Genetics IDP is a premier graduate program that recruits the most talented high potential graduate students in life sciences at TAMU. The program has the following expectations of all faculty members accepting new GGEN Ph.D. students into their laboratories:

1. The faculty member will honor the fact that the student was recruited by the efforts and funds of the GGEN IDP and is a student of such IDP. Consequently, the faculty member will refrain from encouraging or advising the student to transfer to any other TAMU sponsored graduate program for any purpose.

2. The GGEN IDP has actively pursued a variety of funding mechanisms to support all students for more than one year. Some of these funding sources have special requirements for student and faculty mentor participation in certain activities and by accepting a student, the faculty member agrees to support such requirements by the funding source.

3. The faculty member will support the new student's salary until at least August 31, 2030, starting June 2026, at a level equal to or higher than the current minimum stipend stipulated in the student acceptance letter for the Genetics IDP ($32,000/year).

4. The faculty member will cover the full cost of tuition and fees (including those for summer semesters) for the student beginning with the summer semester of 2026 until at least August 31, 2030.

5. The student may earn a stipend by accepting teaching assistant assignments, if available, in addition to the two-semester teaching requirement of the program. However, the program strongly discourages teaching assistant assignments for more than 2 semesters during years 3 to 5, to ensure that students are able to complete their research project in a timely manner.

6. If a student is given a teaching assistantship, the faculty member will supplement the teaching assistantship to ensure the student's salary does <u>not</u> drop below that in the student's offer letter.

7. Breaking any part of this agreement may preclude the faculty member from taking GGEN students into their laboratory in the future and may led to being removed as a Faculty from the GGEN IDP.

Faculty name _____

Faculty signature _____ Date: _____

APPENDIX IV

MENTORSHIP COMPACT

TAMU Interdisciplinary Program in Genetics and Genomics

Compact Between Graduate Students and Their Supervising Faculty

Defining Student and Supervising Faculty Responsibilities and Expectations

Instructions: The following are a list of topics the student and their academic advisor should consider discussing. On this form, please indicate with a check mark the items discussed. We recommend that the reached agreements between the parts be documented in writing. The items that are not applicable to the discussion can be indicated with NA.

- ☐ 1. **Frequency and methods of communication between Supervising Faculty and Student** (How often will the student and mentor meet? How should updates or changes in expectations and issues be communicated?)

- ☐ 2. **Research and Training of the Student** (What is/are the student's project(s)? Are there people who will oversee the student's training, and to what degree will the student assist with other lab projects or working group projects? To what degree are students encouraged (or discouraged) from engaging in projects in different labs or working groups?)

- ☐ 3. **Coursework** (How will elective coursework be determined? For example, will the mentor choose, will the mentee choose, will there be a discussion at the first

committee meeting, etc. Can the student take credits outside of required degree courses? What is the expected time commitment for taking coursework? What is the expected completion date of the coursework necessary?)

- ☐ 4. **Department Specific Requirements** (Are there any time commitment requirements for my home department? What are the seminar and journal club attendance expectations?)

- ☐ 5. **Program Requirements** (Is there an understanding of the expectations required by the Genetics and Genomics Interdisciplinary Program as outlined by the Faculty of Genetics Expectations for Graduate Student Training and Support? [This includes degree requirements, teaching requirements, fellowship/funding requirements, etc.] Is there an agreement on the time commitment and timeline to complete all program requirements specified by the Genetics and Genomics Interdisciplinary Program?)

- ☐ 6. **Professional Development** (What constitutes professional development? What activities should students engage in to enhance the quality of their graduate education? What is the policy for taking time to engage in industry collaborations or investing time to complete an internship?)

- ☐ 7. **Common Laboratory or Working Group Responsibilities** (Which tasks and duties are shared among all lab or working group members, including the student? Are there recurring meetings the student is expected to attend?)

- ☐ 8. **Notebooks, Data, Media** (What is the policy of the laboratory or working group related to the storage and sharing of data, notebooks, media, or other information relevant to ongoing or completed projects?)

- ☐ 9. **Working Hour Flexibility** (What is the policy for working hours in the lab versus flexibility to work at home or another location (i.e., coffee shop, etc.)? What is the policy for vacations, holidays, and personal days?)

- ☐ 10. **Authorship and Contributor Policies** (What criteria are used to determine authorship on a student-led project or in which the student contributed? How is the order of authorship determined in a manuscript or abstract? In what other ways might the students' contribution be acknowledged?)

- ☐ 11. **Manuscripts or other scholarly/creative works expected for Graduation** (Are there specific expectations for the number of scholarly works (published, submitted, and/or in preparation) and the order of authorship other than those required by the GENE Program (see GENE Handbook for details) before the student can schedule their defense?

- ☐ 12. **Intellectual Policy and Copyright Issues: Disclosure, Patent Rights, and Publishing Research Discoveries** (What is the policy for claims on intellectual property and patents that come out of the student's work? How is it decided what journal or publisher the student will use for their scholarly work?)

- ☐ 13. **Selection of a Dissertation Committee** (What is the process for determining the subject of the dissertation and the composition of the dissertation committee?)

- ☐ 14. **Attendance of Professional Meetings** (Is there a lab policy about attending regional, national, or international meetings? For example, only if the student is presenting? If travel funds cannot be secured (by GENE, The Graduate and Professional School, etc.), would the advisor cover the costs, and what would be covered?)

- ☐ 15. **Career Development / Job Search and Placement** (What is the student's career choice? What arrangements can allow the student to participate in courses, workshops, etc., for their particular interests without compromising their research or scholarly training? What is the process in the student's field for job search and placement?)

- ☐ 16. **Funding and Financial Support** (Is the student financially supported, and by what mechanism (GAR, GAT)? Is the student expected to support themself? Will the student be provided with resources to complete research or scholarly work?)

- ☐ 17. **Fellowships** (What are the training requirements of an awarded fellowship? Is the mentor aware of these requirements for the fellowship? How will the student balance fellowship requirements with other research and/or teaching commitments?)

- ☐ 18. **Graduate Training Milestones** (**Consider discussing with the entire committee.** What research milestones should the student achieve to show progress? How will these research milestones be met, and how do you measure progress? Is there a specific timeline for these research milestones? For example, when the first paper should be published, general timeline towards work on each chapter to graduate by a specific time, etc.)

- ☐ 19. **Conflict Resolution and Student Complaint Policies** (How will conflicts be resolved, and what processes are preferred? Student-supervisor discussions or discussions that include other parties (e.g., student committee members, advisory committee, program graduate advisor, program chair, or university ombuds officer?).

☐ 20. **Additional Topics not listed here.**

We acknowledge that we have discussed the most relevant topics and identified mutually agreed upon expectations and responsibilities by our signature. We acknowledge our joint intention to re-evaluate this compact regularly (e.g., once a year) and modify it as needed throughout the student's period of academic standing. **This is by no means a binding contract.**

_____

Student's Name

_____

Signature of Student

_____

Date

_____

Supervising Professor's Name

_____

Signature of Supervising Professor

_____

Date

APPENDIX V

EXPECTATIONS OF GENETICS AND GENOMICS GRADUATE STUDENTS

At all times, before and after passing the preliminary exam, a student must remain in good standing to continue in the graduate program. Graduate students are expected to:

1. Make reasonable progress in their research. Graduate students are expected to actively work on their research project unless they notify their advisor and officially take vacation, medical, or family leave.

- When students are not actively engaged in running experiments or analyzing data, they should read the literature or draft or edit papers, abstracts, reviews, or proposals.
- Sometimes projects do not work as expected, resulting in unpublishable data. When this happens, students are expected to work with their advisor and Thesis Committee to assess the risk of their projects. Risk can be actively managed in many ways, including by planning experiments to determine as rapidly as possible whether a new project is viable, by setting performance deadlines (if we haven't solved the problem by this date, we need to change approaches), or by developing alternate, less risky "Plan B" projects in parallel with the risky project.
- It is expected that all students will adhere to this schedule. Students who do not meet deadlines will be contacted by the Chair of the Faculty of Genetics and Genomics to ensure that adequate progress is made. In most cases, a letter from the student's major professor to the Chair, explaining why the schedule was not met, will be sufficient for continuation. **If students experience recurring problems in meeting the schedule, registration may be blocked.** In these cases, the Chair of the Faculty of Genetics and Genomics and the student's major professor will meet.

2. Provide access to all data and procedures.

According to the Texas A&M Administrative Procedure 15.99.M1.03: "research data conducted on a Texas A&M University project" belongs to Texas A&M University. This includes, but is not limited to:

- Research notebooks and electronic files need to be clear and complete, and the Principal Investigator (PI) and other lab members need to have access to this information.
- All data needs to be permanently and safely always stored in the laboratory. For instance, data cannot be stored only in one place (e.g., on a student's personal computer) and then removed from the laboratory.
- Data collected by a graduate student at other institutions needs to be added to the lab paper or electronic files upon return to Texas A&M University.

3. Behave professionally and respectfully to their colleagues. A student's success in graduate school depends, in part, on the help and support (e.g., training and protocols, critical evaluation of data, troubleshooting assistance) provided by their PI, lab mates, and other colleagues. Students are expected to always behave professionally and respectfully toward their colleagues. Behaviors that foster a hostile workplace are not only forbidden by university policy, but they also erode the social network that helps students succeed.

4. Comply with university policies. In addition to specific policies mentioned above, these policies include but are not limited to:

- The TAMU Student Conduct Code
- Compliance with all regulatory policies applicable to the student's research and completing the required training courses in a timely manner.
- The TAMU rules, policies, and Standard Administrative Procedures are available at http://rules-saps.tamu.edu/TAMURulesAndSAPs.aspx.
- Texas A&M University does not tolerate acts of discrimination, harassment, or retaliation based on a protected class as outlined in Texas A&M System Policy 08.01.01

Dissolving a student/PI relationship

We understand that conflicts can arise between students and faculty. The GGEN Program, the Advisory Committee and the student committee will work with a student in good standing to resolve these conflicts or help the student change laboratories. In the student's best interest, **we will not support multiple lab changes**.

A student and/or a PI may decide to dissolve their relationship. In this case, the student or PI terminating the relationship should first contact at least one of the following people:

- The GGEN Program Manager, Dr. Isabel Caballero: icabal@tamu.edu
- The GGEN Program Chair, Dr. Zach Adelman: zachadel@tamu.edu
- The GGEN Program Past-Chair, Dr. David Threadgill: dwthreadgill@tamu.edu

Alternatively, you can report concerns anonymously through the link below:
https://genetics.tamu.edu/reporting-form-for-student-concerns/

The student and their Major Professor should then meet to discuss the situation. If needed, the GGEN Program Chair may advise the instigator prior to this discussion and/or participate in this discussion.

The GGEN Program encourages students to make thoughtful decisions about their permanent lab and put sincere effort into their projects, because leaving a lab can potentially be detrimental to the student's career. There are four possible outcomes from terminating a student/PI relationship: (i) the student may join another lab and still pursue a Ph.D., (ii) the student may graduate with a non-thesis master's degree, (iii) the student may graduate with a thesis master's degree, or (iv) the student may leave the university without a degree.

(i) If the student is in good standing and wants to pursue a degree in another lab: The student should immediately begin actively seeking another research mentor. Faculty in the program are listed on the GGEN website at http://genetics.tamu.edu/faculty. The GGEN Program Chair, or the GGEN Office may know of labs actively seeking new members. Students are responsible for contacting faculty and arranging interviews if the

faculty is considering taking on new students. One of the 3 people listed above can advise the student on how best to proceed.

Often the student is unpaid during this transition.

- Some faculty may provide salary support while the student finishes ongoing experiments and organizes data, and the student may seek a new lab during this time. *However, this is unusual, and a student should not depend on this support being available.*
- In rare cases, a student may TA to support their salary while they seek a new lab. TA positions are generally only available just before the spring and fall semesters begin. In general, TAships are awarded first to students in that department, then to students in Interdisciplinary Programs like Genetics and Genomics who are members of labs in that department, and then finally to students changing labs.
- The program does not have funds available to support students' salary, tuition, or fees during this transition period.

Consequently, it is essential to find a new lab as quickly as possible, keeping in mind that the lab must be a good match for the research interests and personality of the student. **The student must find a new research lab by the end of that semester.**

(ii) If the student wants to leave TAMU with a non-thesis option master's degree (MS-NT), then they need to contact Dr. Isabel Caballero, who will assist the student on the processes they need to follow. The student will file a petition to change their degree (MDD) with The Grad School using the Document Processing Submission System. After the MDD petition is approved, the student will submit another petition to change their degree plan and form a new committee. To get a MS-NT, students must have accumulated 36 hours of coursework. The student must apply for a degree change as soon as possible given that the University graduation deadlines are very early, shortly after the semester begins. The Grad School deadlines can be found at https://grad.tamu.edu/knowledge-center/dates-and-deadlines/dates-and-deadlines. If the deadline for the current semester has already passed, the student can apply for a degree to be awarded the following

semester. A detailed list of steps for graduating with a Master's degree, including links to all the required forms can be found at: steps-to-master-s-degree. Please note that there are fees associated with graduation.

(iii) The student may elect to graduate with a thesis master's degree (MS-T). In addition to accumulating 32 hours of coursework, a thesis master's degree candidate must write and defend a master's thesis. To write a thesis, the student must have accumulated enough data to generate a compelling, well-supported story. Generally, the student's previous Ph.D. committee will continue to serve as the master's thesis committee. Thesis master students must submit a Research Proposal Approval Form to The Grad School no less than 20 days prior to their defense. The student's degree plan must also have been approved no less than 90 days before their Master's Thesis defense. Consequently, it is important to complete both forms quickly. A detailed list of steps for graduating with a Master's degree, including links to all the required forms can be found at: steps-to-master-s-degree. Please note that there are fees associated with graduation.

(iv) If a student decides to leave the university without a degree, they need to make sure that Dr. Isabel Caballero, has been notified of their decision.

When departing a lab for any reason, students must remember to make all notebooks, electronic records, and data available to the laboratory and PI. The student must also make sure all products created by the student (e.g., animal lines, DNAs, proteins, chemicals) are clearly labeled and the remaining lab members know their location. All research notes, data, records, and products are owned by Texas A&M University.

Involuntary Termination from the GGEN Graduate Program

Students can be involuntarily dismissed from the GGEN Graduate Program for several reasons, including but not limited to:

1) Failure to remain a student in good standing.
2) Failure to meet Expectations for GGEN Graduate Students (see above).
3) Students must actively make progress toward their degree. If they leave their original lab, they must find a new lab by the next registration deadline so they can register for GENE 691. If the student feels this could be a problem, they should contact the GGEN Program Manager, Dr. Isabel Caballero, as soon as possible.
4) An unsatisfactory grade from the student's PI.
5) Other events not explicitly covered calling into question a student's ability to complete the necessary work for a Ph.D. degree.
6) Other events not explicitly covered that call into question the student's ability to interact with their colleagues in a respectful and professional manner.

If any of these situations should occur, the student's case will be reviewed by the GGEN Executive Committee.

APPENDIX VI

COURSE REQUIREMENTS FOR THE PH.D. DEGREE IN GENETICS AND GENOMICS

Required Courses (17 CR)

- GENE 603 Genetics (3 CR)
- GENE 608 Critical Analysis of Genetic Literature (2 CR)
- Choose any of the following Computational genetics courses (3 CR)*
  - ***BIOL 651 Bioinformatics*
  - ***BIOL 683 Experimental Design in Biology*
  - STAT 604 Special Problems in Statistics Computations and Analysis
  - ***STAT 646 Statistical Bioinformatics*
  - STAT 657 Advanced Programming using SAS
  - ***GENE 657 Command Line Skills*
- GENE 681 Seminar (3 CR)
- GENE 682 Seminar Presentation (1 CR)
- GENE 685 Research Rotations (2 CR)
- GENE 697 Teaching Genetics Labs (2 CR)
- BICH 658, Application of Scientific Values in Daily Research Practice (1 CR)

* These are approved courses meeting requirements. Alternative courses must be approved by the Genetics and Genomics Executive Committee.

** Courses in *italics* are part of the Bioinformatics and Computational Biology Certificate (CERT-BICB, see **Appendix VII**).

Elective Courses (9 CR)

Note: Students must choose courses spread across at least three competency areas shown below. In addition, when signing up for a crosslisted course (one listed as GENE/XXXX) the student should enroll in the GENE section of the course.

Competency Area: Molecular Genetics

BICH/GENE 616 Mechanisms of Cell Division

BICH/GENE 631 Biochemical Genetics

BICH 656 RNA World

BICH/GENE 673 Gene Expression

BIOL 609 Molecular Tools Biology

BIOL 635 Plant Molecular Biology

ENTO 641 Engineering Vector Populations

GENE 648/ECCB 620 Molecular Evolution

MSCI 612 Current Topics in Cell Signaling

SCSC 647 Genome Editing Crop Plants

VIBS 611 Tumor Cell Bio and Carcinogenesis

VTPP 676 Genetics & Molecular Toxicology

Competency Area: Quantitative and Population Genetics

ANSC 628 Animal Breeding

ECCB/GENE 689: Evolution and Function of New Genes

EEBL 605 Population & Quantitative Genetics

EEBL 606 Phylogenetics & Comparative Biology

ESSM 689 Quantitative Methods in Ecology, Evolution and Biogeography

GENE/ECCB 606 Quantitative Phylogenetics

GENE/ANSC 613 Quantitative Genetics

GENE/ANSC 638 Prediction of Genetic Merit

GENE/ANSC 642 Advanced Quantitative Genetics

SCSC 641 Plant Breeding

SCSC 642 Plant Breeding II

GENE/SCSC 643 Molecular Quantitative Genetics in Plant Breeding

GENE/WFSC 633 Conservation Genetics

Competency Area: Statistics and Bioinformatics

BICH 661 Advance Genome Annotation Ontology

BIOL 647 Digital Biology

***BIOL 651 Bioinformatics*

***BIOL 683 Experimental Design Biology*

***GENE 656 Metagenomics*

***GENE 657 Command Line Skills*

***GENE 658 Differential Gene Expression*

***GENE 659 Genome Assembly*

***GENE 689 Single-Cell RNA-seq Data Analysis in R*

***GENE 689 Advanced Bioinformatics*

***GENE 689 Shotgun Metagenomic Data Analysis*

SCSC 660 Experimental Designs in Agriculture

***MPHY 624 Biostatistics*

STAT 604 Special Problems in Statistics Computations and Analysis

***STAT 646 Statistical Bioinformatics*

***STAT 651 Statistics in Research I*

***STAT 652 Statistics in Research II*

STAT 657 Advanced Programming using SAS

VIBS 675: Single Cell Data Analysis via Machine Learning

WFSC 670 Excel Biometry

Competency Area: Organismal genetics

ANSC 624 Mammalian Developmental Genetics

GENE/ANSC 626 Analysis of Gene Expression

BICH 675 Plant Biochemistry & Genomics

BIOL 606 Microbial Genetics

BIOL 610 Evolution

BIOL 611 Developmental Genetics

ENTO 628 Arthropod Genomics & Gene Expression

GENE 677 Genes and Diseases

MPIM 601 Microbial Pathogenesis of Human Disease

MPIM 663 Molecular Biology of Animal Viruses

MSCI 603 Tumor Microenvironment and Cancer Metastasis

MSCI 630 Pathogenesis of Human Disease

MSCI 604 Foundations of Biotechnology

MSCI 635 Mammalian Immunobiology

VTPB 613 Mammalian Genomics & Bioinformatics

Competency Area: Genomics

ANTH 672 Ancient Genetics

BICH 661 Genome Annotation with Ontologies

BIOL/BICH 650 Genomics

EEBL 607 Evolutionary Genomics

GENE 620 Cytogenetics

GENE 629 Applied Animal Genomics

GENE/VIBS 630 Comparative Genomics

GENE/ANSC 639 Bacterial Genomics

GENE 654 Analysis of Complex Genomes

GENE 655 Analysis of Complex Genomes-Lab

VTPP 638 Analysis of Genomics Signals

TYPICAL CURRICULUM§

1st Year

Fall (9 CR)

GENE 603 (3 CR) Genetics

GENE 608 (2 CR) Critical Analysis of Genetic Literature

GENE 681 (1 CR) Seminar *OR* GENE 697 (1 CR) Teaching Genetics Labs (if GAT in Y1)

GENE 685 (2 CR) Research Rotations

BICH 658 (1 CR) Application of Scientific Values in Daily Research Practice

Spring (9 CR)

Computational genetics (3 CR)

Genetics elective (3 CR)

GENE 681 (1 CR) Seminar *OR* GENE 697 (1 CR) Teaching Genetics Labs (if GAT in Y1)

GENE 691 (1 CR) Research

Summer (6 CR)

GENE 691 (6 CR) Research

Submit Degree Plan

2nd Year

Fall (9 CR)

Genetics elective 1 (3 CR)

Genetics elective 2 (3 CR)

GENE 682 (1 CR) Seminar Presentation (15 min presentation) OR GENE 681 Seminar (if Seminar Presentation is scheduled in the Spring semester)

GENE 697 (1 CR) Teaching Genetics Labs (if GAT in Y2)

GENE 691 (1 CR) Research

Spring (9 CR)

GENE 681 (1 CR) Seminar OR GENE 682 Seminar Presentation (if Seminar presentation was not scheduled in the Fall semester)

GENE 691 (7 CR) Research

GENE 697 (1 CR) Teaching Genetics Labs (if GAT in Y2)

Summer (6 CR)

GENE 691 (6 CR) Research

§ Additional elective courses may be taken. Note: nine credit hours of genetics and genomics electives are required. If you want to propose an elective course, see **Appendix VIII**.

3rd Year

Fall (9 CR)

GENE (9 CR) Research

Take Preliminary Exam and submit Research Proposal

Spring (9 CR)

GENE 691 (9 CR) Research

Summer (6 CR)

GENE 691 (6 CR) Research

4th Year

Fall (9 CR)/Spring (9 CR)

GENE 691 (9 CR) Research

Summer (6 CR)

GENE 691 (6 CR) Research

5th+ Year

Fall/Spring as needed

GENE 691 (9 CR) Research

Take Final Exam (Thesis Defense) and submit Dissertation

Total hours for Ph.D.

- 96 CR plus completion of a dissertation
- 64 CR plus completion of a dissertation if previously completed MS degree

APPENDIX VII

BIOINFORMATICS AND COMPUTATIONAL BIOLOGY CERTIFICATE (CERT-BICB)

The Bioinformatics and Computational Biology Certificate is open to graduate students with a background in life sciences. The certificate emphasizes acquiring biological and computational expertise by supplementing graduate students' experiences with the necessary training in scripting and analysis of DNA/RNA sequencing data on a high-performance computing cluster. The courses offered focus on applying computer-based technologies to biological, biomedical, and biotechnology research. The curriculum includes instruction in database management, data mining, experimental design and analysis applications, and specific quantitative and analytical studies in the genetic and genomic sciences. Students completing the Bioinformatics and Computational Biology Certificate will possess an array of skills: ability to manage, interpret, and analyze large data sets; broad knowledge of bioinformatics analysis methodologies; familiarity with functional genetic and genomic data; and expertise in standard bioinformatics software packages and algorithms using command-line interfaces. Overall, this certificate will enhance graduate student training by strengthening their critical thinking, ability to communicate scientific concepts and analytical reasoning.

CERT-BICB requires completion of 15 credit hours that can be distributed throughout several semesters at will.

Enrollment requirements: must be a current graduate student with a background in the life sciences.

Two, 3 credit hour courses, GENE 657 (Bioinformatics: Command Line Skills) and BIOL 683 (Experimental Design) are required. The additional 9 CR can be a combination of any of the following prescribed electives*: BIOL 651 (Bioinformatics, 3 CR) GENE 656 (Bioinformatics: Metagenomics Data, 1CR), GENE 658 (Bioinformatics: Differential Gene Expression, 1CR), GENE 659 (Bioinformatics: Genome Assembly, 1CR), MPHY 624 (Biostatistics, 3 CR), STAT 646 (Statistical Bioinformatics), STAT 651 (Statistics in Research I, 3 CR), STAT 652 (Statistics in Research II, 3 CR), GENE 689 (Advanced Bioinformatics, 1 CR), GENE 689 (Shotgun Metagenomic Data Analysis), and GENE 689 (Single-Cell RNA-seq Data Analysis in R). Note: GENE 657 must be completed before registering for GENE 656, GENE 658, or GENE 659. The official certificate will be added to your transcripts and student records prior to graduation via the University Adjustment System.

*CERT-BICB electives list will be updated periodically. Additional courses with a strong computational component can be brought to the Faculty of Genetics' Executive Committee for review.

APPENDIX VIII

PROCEDURE FOR APPROVING NEW GENE ELECTIVES COURSES

The revision of the GENE Ph.D. curriculum around competency areas provides substantial flexibility for individual degree programs. Students are required to take 9 CR of electives spread across three of the five competency areas (Molecular Genetics, Quantitative and Population Genetics, Statistics and Bioinformatics, Organismal Genetics, and Genomics). All courses should have a substantial research literature component. Courses meeting the criteria can be added to the list of qualified courses. The process is:

1) A faculty member or graduate student nominates a course that fulfills a specific competency area to the Executive Committee.
2) The nomination should include the syllabus and a justification explaining how the course fulfills a specific competency area.
3) The justification and syllabus will be forwarded to members of the Executive Committee, who will have 10 working days to vote for or against the inclusion of the nominated course in the GENE curriculum.
4) The GENE Executive Committee will vote for or against the inclusion of additional courses presented by a faculty member or student. A simple majority is required to approve the course.

APPENDIX IX

ADDITIONAL FORMS AND INFORMATION

Fillable forms are available at our Genetics Website at:

https://genetics.tamu.edu/current-students/resources/

- Genetics Faculty Confirmation Form
- Preference List for Lab Rotation
- Preference List for Final Lab Assignment
- Rotation Evaluation by Faculty
- Student Rotation Evaluation
- Mentorship Compact

Academic Milestones Information

- Degree Plan Instructions (DPSS)
- Preliminary Exam Walk-Through (ARCS)
- Research Proposal Walk-Through (ARCS)
- Final Examination Walk-Through (ARCS)
- Thesis and Dissertation Submission System (VIREO)

APPENDIX X: TEXAS A&M CORE FACILITIES, DIVISION OF RESEARCH

Microscopy and Imaging	Genomics, Sequencing, and Flow	Materials and Fabrication	Data Informatics and Computation	Environmental and Chemical Sciences
These cores focus on advanced imaging techniques, including light microscopy, from visualization of proteins to whole animal imaging	Cores in this area focus on advanced equipment and techniques associated with human, animal, and plant biological and medical research	These core facilities focus on the synthesis and fabrication of different materials, including polymers, metals, ceramics, and composites, and the characterization of their structural and physical properties using a wide range of methods.	Cores in this area focus on empowering research and discoveries by providing access to computational hardware, software, and application expertise across the spectrum of data sciences.	These cores focus on state-of-the-art sample collection and chemical analysis using resources, including a mobile environmental sampling van, high-volume resolved particle samplers, mass spectroscopy, Raman spectroscopy, and other analytical techniques.
• College of Dentistry Research Core-Dallas, TX • CVMBS Core Histology Laboratory • IBT Pre-Clinical Imaging Core-Houston, TX • IBT-Center for Advance Imaging, Houston, TX • Image Analysis Laboratory-Veterinary Medicine & Biomedical Sciences • Integrated Microscopy and Imaging Laboratory • Microscopy and Imaging Center	• AgriGenomics Laboratory • Animal Genetics Laboratory • COM Cell Analysis Facility • Comparative Medicine Program • Flow Cytometry Facility • IBT Antibody & Biopharmaceutics Core-Houston, TX • IBT Flow Cytometry & Cell Sorting Core-Houston, TX • IBT High Throughput Research & Screening Center • IBT Protein Production, Characterization, and	• AggieFab Nanofabrication Facility • Biomedical Engineering Shared Laboratories • IODP XRF Core Scanning Laboratory • Materials Characterization Facility • Materials Development & Characterization Center • National Corrosion & Materials Reliability Laboratory • Soft Matter Facility • SQUID Magnetometer • X-Ray Diffraction Laboratory	• Crop Genome Editing Laboratory • Genomics & Bioinformatics Service • High Performance Research Computing • IBT Rigor & Reproducibility Core • Laboratory for Molecular Simulation • Smart Grid Control Room Lab • TIGSS Bioinformatics Core • Multi-Crop Transformation Facility	• Biomolecular NMR Laboratory • Center for Atmospheric Chemistry & the Environment • Chemistry Mass Spectrometry Facility • Elemental Analysis Laboratory • Geochemical & Environmental Research Group • NMR/ESR Facility of the Chemistry Department • Nuclear Engineering & Science Center

Microscopy and Imaging	Genomics, Sequencing, and Flow	Materials and Fabrication	Data Informatics and Computation	Environmental and Chemical Sciences
	Molecular Interaction Core-Houston, TX • Integrated Metabolomics Analysis Core • Molecular Cytogenetics Laboratory • Multi-Crop Transformation Facility • National Center for Therapeutics Manufacturing • Systems & Synthetic Biology Innovation Hub • Texas A&M Institute for Genomic Medicine • TIGSS-Rodent Preclinical Phenotyping Core • TIGSS: Experimental Genomics Core • Biomedical Engineering Shared Laboratories • Biomolecular NMR Laboratory	• Chemistry Mass Spectrometry Facility • IBT Antibody & Biopharmaceutics Core-Houston, TX	• National Corrosion & Materials Reliability Laboratory	• Radiation Effects Facility • Stable Isotope Geosciences Facility • Laboratory for Molecular Simulation • Molecular Cytogenetics Laboratory • X-Ray Diffraction Laboratory