

Texas A&M University

Faculty of Genetics



2015 - 2016

First Year Graduate Student Handbook

<http://genetics.tamu.edu>

Graduate Program Committee
Faculty of Genetics
Texas A&M University

*Please submit any suggestions or corrections to the Genetics Office
Room 109A Biochemistry/Biophysics Building, (979) 458-2284*

HOWDY!

We are pleased you have chosen the Genetics Program of Texas A&M University to pursue your graduate studies. This Ph.D. Handbook provides a description of the doctoral program, what is expected from you and when, and all sorts of handy information about registration and forms, etc. It is important to note, however, that the TAMU Graduate Catalog for the 2015-2016 academic year is the official document stating the rules and regulations under which your pursuit of a graduate degree is to be conducted. We strongly suggest that you read the genetics section under Interdisciplinary Degree Programs.

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

Dorothy Shippen
Chair, Faculty of Genetics

Reed Stubbendieck
President, Genetics Graduate Student Association

TEXAS A&M UNIVERSITY

Texas A&M University is a public institution and flagship of the Texas A&M University System that is dedicated to the development and dissemination of knowledge in diverse academic and professional fields. The University is committed to assist students in their search for knowledge to help them understand themselves, their cultural and physical environment, and to develop in them 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 today has become a world leader in teaching, research, and public service. Located in College Station in the heart of Texas, it is centrally situated among three of the country's 10 largest cities -- Dallas, Houston, and San Antonio. Fall, 2015 enrollment was 58,920 which places Texas A&M among the nation's 5 largest university campuses. Students represent every state and 123 countries. Tenth in number of new National Merit Scholars during Fall, 2014 with 583 of these high-achieving students enrolled. Texas A&M University has also been recognized as the happiest college in the country.

Research: Texas A&M's research budget for fiscal year 2013 was more than \$820 million. The university's research expenditures resulted in a ranking of 19th nationally -- and first in the South and Southwest -- by the National Science Foundation.

Facilities: 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, the university has branch campuses in Galveston, Texas and Doha, Qatar, and operates the 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.

BRYAN/COLLEGE STATION

Bryan/College Station is located 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 almost 250,000.

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 92 degrees and high humidity (it gets hot and stays hot!).

HOUSING AND FINDING A ROOMMATE

Housing in Bryan/College Station is plentiful, but it is important to start looking early for accommodations that are 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 almost a must!!!

The Off Campus Student Housing Office (<http://studentlife.tamu.edu/agoss.offcampushousing>) is on main campus. You can call them at (979) 845-1741 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 (<https://aggierearch.tamu.edu>) 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. You can also contact the Genetics Graduate Student Association for recommendations from students in the program.

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.

HEALTH CARE

Medical and psychological health services are available on campus at Beutel Student Health Center. The non-emergency number is (979) 845-1525. You can schedule an appointment online or at (979) 458-8250.

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THE GENETICS GRADUATE STUDENT ASSOCIATION (GGSA)

Purpose of the Organization

The Genetics Graduate Student Association (GGSA) is an advocacy and social group for graduate students with research interest in Genetics. A member of the GGSA must be enrolled with graduate classification at Texas A&M University, classified as a Genetics major and in good standing with the University. The organization meets each month to socialize, to address any academic issues they may have within the program, and issues within the University. The GGSA has representatives on the Recruiting, Graduate Curriculum, and First Year Advising Committees of the Faculty of Genetics so that they can report their issues within the program, which are then passed on to the Executive Committee of the Genetics Faculty. University issues are passed on to the Graduate Student Council (GSC). The GGSA also has organized events throughout the year such as Fall Picnic, Tailgate Party, volleyball, games, etc.

Genetics Graduate Student Association (GGSA) Executive Committee

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THE GRADUATE PROGRAM IN GENETICS

The graduate program in Genetics provides students with specialized training through course work, research, and teaching. The program has established requirements in these areas that must be satisfied by all students. The program requirements exist so that graduate students will receive a thorough understanding of their area of specialization as well as intensive experience in their particular field of research.

Additional requirements for graduate degrees are established by the Office of Graduate and Professional Studies (OGAPS). In most cases, the Genetics requirements are more explicit than the OGAPS requirements.

It is your responsibility as a graduate student to insure that you have met all program, graduate, 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. Please keep this book handy and refer to it as you progress through pursuit of your degree. Additional information can be obtained from the Graduate advising office for Genetics, located in Bio/Bio, Room 109A, emailing: genesec@tamu.edu, or calling (979) 458-2284.

GRADUATE DEGREE SCHEDULE

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

The following time schedule should be met for all Genetics PhD graduate students (semester refers to a regular 17-week semester and does not include summer terms):

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

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 to insure that adequate progress is being made. In most cases, a letter from the student's major professor to the Chair of the Faculty of Genetics, 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 the student's major professor will meet.

ROTATIONS

All incoming students are required to participate in three laboratory rotations during the fall semester. Although some students may enter with a specific major professor identified, all students must complete the three laboratory rotations during their first semester. Rotations acquaint new students with the research programs in their area of interest in genetics and across campus, providing a perspective on approaches and procedures used in modern genetics, as well as useful contacts in other labs. Rotations are also important to ensure students obtain a feel for the work environments of labs they may consider joining. Upon arrival, students receive written information about the research program in each professor's laboratory, and have the opportunity to interact with faculty during short faculty presentations scheduled during orientation. Following the new student orientation, students submit names of three laboratories (to the Genetics Advisory Committee) in which they would like to perform the first rotation. Requests for the second and third rotations will be due approximately one week before these are scheduled to begin. Rotating students may enroll for up to 2 hours of credit in Genetics 685. Students have the option to begin rotations during the summer before the fall semester, if desired. The professor, in whose lab the student is rotating, will assign A-F grades along with a written evaluation of the student's work in that lab. You will find a schedule of rotation due dates for your first year included in the Helpful Hints section of this handbook.

TIME COMMITMENTS IN GRADUATE SCHOOL

Graduate studies are demanding. You are no longer an undergraduate. Graduate studies are no less demanding, from the effort to the time commitment, than a professional degree. If anything, they are far more challenging since most of your day will not be scheduled for you like a professional curriculum. Rather, you **MUST** be self-motivated in order to succeed. You are being paid almost \$50,000 per year to earn your degree, most of this coming from your Major Professor's research grants that have specific deliverables for which they are responsible. Your stipend is only half your pay, the other half being the tuition expenses being paid for you. If you approach graduate school as an 8-5 job or with the flexibility of an undergraduate, you likely will not finish your degree. Your days should be for classes and lab work. Any work required for your courses should be done in the evening or weekends and not substituted for lab time. At a minimum, while taking 9 CR of research hours, you are in essence being paid for 47 hours per week (20 hours through your stipend and 27 hours for your education [9 CR research hours x 3 hours for each CR]). Even when not taking research hours, your time in the lab is critical to your success.

CHOICE OF MAJOR PROFESSOR

All students must identify a Major Professor by the end of their first full semester. All students will provide the Chair of the First Year Advising Committee a rank order of their choice for major professor after discussing opportunities with their rotation professors. The First Year Advising Committee will match students with a Major Professor based upon both the student and professor's preferences. If additional rotations are needed to find an appropriate lab, students can perform these in the spring semester. Occasionally, working equally under the direction of two faculty members can enhance a student's graduate program.

CONSTRUCTING AN ADVISORY COMMITTEE

An Advisory Committee supervises a student's coursework and research, examines a student's progress, and approves all documents required for progress toward a degree. The Advisory Committee, chaired by the Major Professor, is the primary source of direction and support for a student's research and academic program. The Advisory Committee should be

constituted soon after the choice of Major Professor to provide the student with maximum input on course choices. The Advisory Committee must have at least three members in addition to the Major Professor. At least one member must come from a department outside your "home" department. Your Major Professor **MUST** be a FULL member (listed on pages 8 & 9) of the Faculty of Genetics. Students should familiarize themselves with the members of their Advisory Committee as soon as possible. This Advisory Committee will approve the degree plan, read and critique the proposal and thesis/dissertation, and administer the preliminary exam and oral defense. Committee selection must therefore be completed before the degree plan is filed.

Committee meetings: All graduate students are **required** to have at least one committee meeting each year. An "Advisory Committee Annual Report" form must be submitted* to the Genetics Graduate Program Office no later than July of each year. You will find this form in the beginning of the "Appendix II" section of this handbook. ***Failure to do so may result in a registration block for the fall semester.**

FILING THE 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 Advisory Committee. The minimum total number of hours required on a Ph.D. degree plan is 64 for students entering with a M.S. degree awarded in the U.S. (or its equivalent as determined by the Office of International Admissions). Students entering without a M.S. degree or with an M.S. degree that is not the equivalent of one awarded in the U.S. should have 96 hours on their degree plan.

Limitations on the use of undergraduate, seminar, and transfer courses are detailed in the Graduate catalog. The degree plan is filed through an on-line submission process, signed electronically by all members of the Advisory Committee, and submitted to the Chair of the Faculty of Genetics for Department Head signature. Student must file a degree plan by the end of their third full semester. **Students failing to meet these deadlines will be blocked from registration.**

PROPOSAL

The proposal describes the research that a student intends to undertake. The Proposal provides a student with the opportunity to plan his/her graduate research project and to become familiar with the literature in that area. Proposals serve to 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 prior to the end of the fifth full semester. In the proposal, the student describes the rationale for the research project, the objectives of the research to be performed, and outlines the techniques to be used. Proposals must include a standard cover sheet (See Appendix II) available from the OGAPS website. The proposal is evaluated by the student's Advisory Committee, signed by all members, and submitted with the cover sheet to the Chair of the Faculty of Genetics for Department Head signature. 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. It is instead a mechanism to assist students in clarifying research goals early in their graduate program, to encourage students to become familiar with the primary literature in their field, to provide students with experience in technical writing, and facilitate research interactions between students and members of their Advisory Committee.

PRELIMINARY EXAMINATION

The preliminary examination includes both a written and an oral examination in which a Ph.D. student's mastery of his or her field of specialization is tested by the student's Advisory Committee. Students should schedule their preliminary examinations before the end of their fifth full semester of graduate study. You 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 you are within approximately six credit hours of completion of the formal course work (i.e., all course work on the degree plan except 681, 684, 690, 691, and 692 courses) OR NO LATER THAN THE SEMESTER FOLLOWING THE COMPLETION OF THE FORMAL COURSE WORK ON THE DEGREE PLAN.

Once all portions of the examination are completed, the Major Professor will report the results of the examination in writing using the proper form within ten working days of the scheduled examination date to OGAPS. Note that this form requires the signatures of all Advisory Committee members. Upon receiving the form OGAPS will verify that all eligibility requirements were met and, if so, record the results of the preliminary exam. If post-review of the exam by OGAPS 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. **After passing the required preliminary examination, you must complete all remaining requirements for the degree within four calendar years. Otherwise, you must repeat the examination.**

If you fail the preliminary examination, there is no obligation for a re-examination. At their discretion, the Advisory 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 (normally six months).

Eligibility Requirements that Cannot be Waived

1. You must be registered 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 OGAPS.
3. You must have 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. All committee members have scheduled or waived the written portion of the exam, and agreed to attend the oral portion of the exam or have found a substitute. Only one substitute is allowed and it cannot be the Major Professor.

The PRELIMINARY EXAMINATION CHECKLIST can be found on the OGAPS web-site.

DISSERTATION

Graduate study culminates in the dissertation, which describes a student's research and outlines the unique contribution a student has made to expand the frontiers of knowledge.

The dissertation describes the research undertaken by a student during graduate study. It is approved by the student's Advisory Committee. The format of the dissertation is very precisely controlled by OGAPS. Students must refer to the Thesis Manual and follow it exactly, or risk having their manuscript rejected by the Thesis Clerk. The Thesis Manual is available at the OGAPS website. The content of the dissertation is established by the student in consultation with the Advisory committee. The dissertation should be submitted to the members of a student's Advisory Committee at least two weeks prior to the Final Defense. It is important that you NOT WAIT until the last minute to take care of this.

PEER-REVIEWED PUBLICATION REQUIREMENT

Students are required to have at least one first-author peer-reviewed publication accepted before scheduling the Final Defense. The Doctor of Philosophy degree is awarded based upon the generation of new knowledge, which in the field of genetics is demonstrated by publication in the peer-reviewed literature. If a paper is under revision, an exception to schedule the Final Defense can be requested from the Chair of the Faculty of Genetics.

FINAL DEFENSE

The final defense provides the student's Advisory Committee with the opportunity to evaluate a student's understanding of his or her 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 an oral examination of the candidate by the Advisory Committee. Final changes to the Dissertation are discussed at this time. The final defense must be held within four years of advancement to candidacy (successfully passing the preliminary exam). For all students, the defense should be scheduled at least four weeks prior to the OGAPS deadline for submission of manuscripts to the Thesis Clerk. This will allow adequate time for revisions and two weeks for the Chair of the Faculty of Genetics signature.

SUBMISSION OF DISSERTATION

An original dissertation must be submitted to the Chair of the Faculty of Genetics for signature a minimum of two weeks prior to the OGAPS deadline. Deadlines for submission of manuscripts to OGAPS are published each semester in the OGAPS calendar.

MINIMUM CREDIT HOURS

All students must remain in continuous enrollment throughout their graduate careers. This means that you must enroll for at least one credit hour during every regular semester (Fall and Spring) while you are working towards your degree. Continuous enrollment is required regardless of a student's source of support. All students using university facilities are required to enroll for a minimum of one credit hour.

SPRING AND FALL: All graduate students receiving Assistantships are required to register for a minimum of 9 hours during the Fall and Spring semesters throughout your graduate career.

SUMMER: All graduate students receiving Assistantships are required to enroll for a minimum of 6 semester credit hours during the summer. The requirement is 3 semester credit hours during any one Summer session in which you are enrolled or 6 semester credit hours during two Summer sessions in which you are employed.

If you are unsure about the GENE 691 (research) section in which you should register (for any semester), please contact the Genetics office at 979-458-2284. For the summer session, the maximum number of GENE 691 hours in each 5-week term is 6, and in each ten week term is 10. So, in order to register for twelve hours, you may register for two 6 hour, 5-week terms.

FULL-TIME STATUS: Graduate students receiving Assistantships are considered full-time students if registered for a minimum of 9 semester credit hours during a fall or spring semester, 6 semester credit hours during a 10-week semester, or 3 semester credit hours during a 5-week term.

MINIMUM GPR

OGAPS calculates two GPRs: a Graduate GPR comprising all courses taken and a Degree Plan GPR comprising just courses on your degree plan. It is expected that a student's Graduate GPR will remain at or above 3.00 during his or her graduate career. When the GPR drops below 3.00, a student will be given a one semester probationary period to bring it back 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 Genetics Graduate Program. If the student has not chosen a Major Professor at this point, the Chair of the Faculty of Genetics will consider scholastic probation (see below) based on evaluations from "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

Scholastic probation is a conditional permission for a student to continue in the university after he or she has become scholastically deficient. For graduate students, this permission is granted by the Executive Chair of the Faculty of Genetics. The record made by a student while on probation determines whether he or she shall be cleared to register as a regular student, be granted a continuation on probation or be suspended, dismissed or terminated from the university for scholastic deficiency. The graduate student may be informed in writing of the terms of probation and may be required by the Advisory Committee or the Chair of the Faculty of Genetics to register for a prescribed schedule of courses. Hour and grade point requirements shall be made consistent with the student's progress toward graduation. The specified hours and grade points are considered to be a minimum only. In addition to, or in lieu of, 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 or record of study. A graduate student will remain on probation until the terms of the probation are accomplished and the Advisory Committee or Chair of the Faculty of Genetics recommends that the probation be lifted. A graduate student blocked or suspended for deficient scholarship may appeal such a decision

through the Graduate Panel, following the procedures defined in Part III, Grievance Procedures: Appeal Procedures.

TEACHING REQUIREMENTS

The teaching requirement is typically two semesters, during the first and second semesters. All students regardless of source of funding must complete at least one semester of teaching, as it is an important aspect of professional training. Previous teaching experience at the University level can be used to fulfill this requirement, at the discretion of the Chair of the Faculty of Genetics. Students with this type of experience should submit a written description of the course(s) they taught, what duties were required, and the name and telephone number of the faculty member in charge of the course.

TEACHING ASSISTANT TRAINING

All incoming graduate students must complete TA training. Texas A&M University provides a mandatory TA training called Teaching Assistant Training and Evaluation Program ("TATEP"). All new graduate students will be registered during orientation and must attend. Additionally, **Genetics TA's must register for one credit of GENE 697 (Teaching Genetics Labs) every semester they TA.**

FINANCIAL SUPPORT

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

In order 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.

DEADLINES

Proposals and dissertations with the Advisory Committee signatures must be submitted to your Major Professor or Chair of the Faculty of Genetics for approval at least two weeks prior to submission to OGAPS. It is important not to wait until the last possible minute to take care of this -- consider that faculty members may be out-of-town or unavailable, and these are extremely important documents in conjunction with your career.

CHANGING DEPARTMENTS

When hired as a teaching assistant or when offered a Regents fellowship through the Faculty of Genetics, you will at this time be considered a Genetics major through the Department of Biochemistry and Biophysics. After completing your rotations and choosing a Major Professor, you will need to access the Petition form on the OGAPS website. At this point, you will complete the petition for change of department, keeping GENETICS as your major, and changing your department to that of your Major Professor. Your Major Professor the Chair of the Faculty of Genetics need to sign this document. You will submit a copy to the Genetics office and then submit the original and any required copies to OGAPS.

APPENDIX I

REQUIREMENTS FOR the PhD DEGREE in GENETICS

Required Courses

- GENE 603 Genetics (4 CR)
- GENE 612 Population Genetics (3CR) OR GENE 613 Quantitative Genetics (3CR)
- GENE 631 Biochemical Genetics (3 CR)
- One additional course (elective) in Genetics or a related field to be chosen by the student and the student's advisory committee.*
- GENE 608 Critical Analysis of the Genetics Literature (1 CR)
- GENE 697 Teaching Genetics (for students who are T.A.s for GENE 301 or 432)
- GENE 681-Seminar -Genetics Colloquium class (1 CR)
- 681 (seminar/journal club) any departmental prefix, 3 semesters for Ph.D. students and 1 semester for M.S. students

* Courses that would meet this requirement include, but are not limited to GENE 620 Cytogenetics, GENE 643 Quantitative Genetics and Plant Breeding, GENE 655 Complex Genomes, GENE/ANSC 614 Maximum Likelihood Estimation of Genetics, ANSC 628 Animal Breeding, BIOL 650 Genomics, ANSC 689 Special Topics in Databases and Programming for Biologists, or MICR 614 Microbial Signaling and Development.

Note: GENE 603 is a prerequisite for GENE 612, 613, and 620. Most graduate students will begin their studies with GENE 603, however, if they come to Texas A&M with an advanced (graduate) level course in Genetics, they may skip GENE 603; the Chair of the Faculty of Genetics will make this decision after reviewing the documentation provided by the student. Also, the course requirements are essentially the same for MS and Ph.D. degrees for the first year of study.

Elective Courses (9 CR, spread across at least three competency areas*)

- Molecular genetics
 - BIOL 635 Plant Molecular Biology
 - GENE 626 Analysis of Gene Expression
 - GENE 648 Molecular Evolution
 - GENE 662 Eukaryotic Transcription
 - GENE 673 Gene Expression
 - Quantitative and population genetics
 - ANSC 628 Animal Breeding
 - ANSC 689 Advanced Quantitative Genetics
 - EEBL 605 Population and Quantitative Genetics
 - EEBL 606 Phylogenetics and Comparative Biology
 - ESSM 689 Quantitative Methods in Ecology, Evolution and Biogeography
 - GENE 606 Quantitative Phylogenetics
 - GENE 612 Population Genetics
 - GENE 613 Quantitative Genetics
 - GENE 614 Maximum Likelihood Estimation of Genetic Parameters
 - GENE 638 Prediction of Genetic Merit
 - GENE 643 Quantitative Genetics and Plant Breeding
 - SCSC 641 Plant Breeding
 - SCSC 642 Plant Breeding II
 - WFSC 624 Dynamics of Populations
 - Statistics
 - STAT 643 Biostatistics I
 - STAT 644 Biostatistics II
 - STAT 651 Statistics in Research I
 - STAT 652 Statistics in Research II
 - WFSC 670 Excel Biometry
 - Organismal genetics
 - ANSC 624 Mammalian Developmental Genetics
 - BIOL 601 Biological Clocks
 - BIOL 606 Microbial Genetics
 - BIOL 610 Evolution
 - BIOL 611 Developmental Genetics
 - BIOL 652 Epigenetic Mechanisms
 - BIOL 698 Behavior, Genes, Evolution
 - GENE 633 Conservation Genetics
 - GENE 677 Genes and Diseases
 - MARB 668 Evolutionary Biology
 - MSCI 630 Pathogenesis of Human Disease
 - Genomics
 - BIOL 650 Genomics
 - EEBL 607 Evolutionary Genomics
 - GENE 620 Cytogenetics
 - GENE 629 Applied Animal Genomics
-

GENE 654 Analysis of Complex Genomes
GENE 655 Analysis of Complex Genomes-Lab
VTPP 638 Analysis of Genomics Signals
VTMI 664 Mammalian Genome Modification for Biomedical Research

*Approved courses meeting requirements in each competency area. Alternative courses must be approved by the Genetics Curriculum Committee.

Typical Curriculum

Fall semester courses (YR. 1):

Typically, new students entering in the fall semester will start with:

GENE 603 (4 hrs.) - Genetics
GENE 608 (1 hr.) - Critical Analysis of GENE Literature
GENE 697 (1 hr.) - Teaching Genetics Labs
GENE 685 (2 hr.) - Directed Studies—Laboratory Rotations
GENE 697 (1 hr.) - Teaching Genetics Labs

TOTAL: 9 hours

Spring semester course (YR. 1)s:

GENE 631 (3 hrs.) - Biochemical Genetics
GENE 697 (1 hr.) - Teaching Genetics Labs
GENE 681 (1 hr.)* – Seminar
GENE 691 (4 hr.) – Research (will select thesis lab at the end of the first semester; will register for research hours under the name of your thesis professor)
OR An elective course (3hr) and GENE 685 (1hr.) - Directed Studies—Rotations (only if you have not selected a thesis lab)

OR

STAT 651 - Statistics in Research I

TOTAL: 9 hours

Summer:

STAT 651 - Statistics in Research I

If the graduate student has chosen a lab at this time, he/she will take:

GENE 691 (hrs.) - Research

IF NOT. . . he/she will take

GENE 685 (3 hrs. each 5 week session) - Directed Studies

Summer Total: 6 hrs. for 10-wk. Session, or, 3 hrs. for each 5 week session

The 4th semester, the graduate student will continue to take the required courses from the “core” courses and select a thesis committee. At this time, the student's committee advisor will prescribe additional courses for the student to take to complete his/her degree.

Fall YR.2 GENE 612 (Pop.Gen.-3 hrs.) or

Spring YR.2 GENE 613(Quant.Gen.-3 hrs.)

The 4th semester, the graduate student will continue to take the required courses from the “core” courses and select a thesis committee. At this time, the student's committee advisor will prescribe additional courses for the student to take to complete his/her degree.

**TOTAL HOURS FOR MASTERS = Thesis - minimum 32 hours, plus completion of thesis.
Non-thesis - 36 hours**

**TOTAL HOURS FOR Ph.D. = minimum 96 HOURS, plus completion of thesis.

64 HOURS, plus completion of thesis if one has already completed a M.S. degree**

DOCTOR OF PHILOSOPHY

1. Residence:

Two academic years in resident study at College Station are required. If a Master's degree has been awarded, one academic year is required. In either case, one academic year beyond the first year of graduate study must be in continuous residence at College Station. See Graduate Catalog for additional information on residency requirements.

2. Student's Thesis Advisory Committee:

This committee is to be composed of no fewer than four members of the graduate faculty, one of which must be from outside the Department. All students should identify a Major Professor before the end of the first semester. The Major Professor must be a full member of the Faculty of Genetics. The student, in consultation with the Major Professor, will select the remainder of the Thesis Advisory Committee. No individual located away from the campus of TAMU at College Station may serve as the Major Professor but may serve as co-chair with an individual located on the campus at College Station. The composition the Thesis Advisory Committee, including a brief statement generated by the student why each of the faculty should serve on his/her committee, is to be submitted to Office of Graduate Studies by the end of the third semester, and final approval will be issued by the Chair of the Executive Committee. The duties of the Advisory Committee include responsibility for the proposed degree plan, the research proposal and preliminary exam, the dissertation and the final examination.

3. Degree Plan:

The Advisory Committee, in consultation with the student, will develop the proposed degree plan.

A minimum of 96 credit hours beyond the baccalaureate degree or 64 credit hours beyond the Master's degree are required. Some Master's degrees awarded in countries other than the U.S. are not equivalent to a Master's degree awarded in the U.S. In these instances, the student will be required to have 96 hours on their degree plan. The student degree plan must be filed with OGAPS no later than ninety (90) days prior to the preliminary examination. As a Genetics major, you are required to have the Chair of the Faculty of Genetics sign this along with all Advisory Committee members.

4. Guidelines for Development of a Degree Plan:

a. The degree plan should be developed in consultation with the student's Advisory Committee and filed with OGAPS prior to the end of the third semester. All degree plans must carry a reasonable amount of 691 (Research) hours. For limitations regarding the use of certain graduate courses, see the Graduate Catalog.

b. Transfer of credit: See Graduate Catalog.

5. Teaching Requirements:

All students are required to teach for one semester.

6. Foreign Language:

No foreign language is required.

7. Preliminary Examination:

The preliminary examination is required--a preliminary examination checklist can be found on the OGAPS web-site.

- a. The student's official GPR at the time of the examination must be at least 3.00.
- b. The preliminary examination shall be given no later than the first semester after getting within 6 hours of completing all course work on the degree plan. It should be completed prior to the end of the fifth full semester.
- c. The examination shall be both written and oral.
- d. Each of the Advisory Committee members will be responsible for administering a written examination in the member's particular field, unless a member chooses to waive participation in the written examination.
- e. Formal announcement of the preliminary examination must be received by OGAPS no less than two weeks prior to the first scheduled written examination.
- f. Both written and oral parts of the preliminary examination must be completed within a length of time usually not to exceed two weeks.
- g. Through the preliminary examination the student should demonstrate a mastery of the subject matter and an adequate critical knowledge of the literature of all fields in the program.
- h. After passing the preliminary examination, degree requirements must be completed within four years.
- i. A letter announcing the outcome of the examination must be sent to OGAPS through the Genetics Office.

For additional information concerning these examinations, see the Graduate catalog.

8. Research Proposal:

The research proposal should be approved at a meeting of the student's Advisory Committee. After being approved by the Chair of the Faculty of Genetics, the proposal should be submitted (in quadruplicate) to OGAPS for final approval. The proposal should be limited to ten pages.

9. Admission to Candidacy:

For admission to candidacy, the student must have an approved degree plan on file, have passed the preliminary examination, filed an approved dissertation proposal, and completed all formal course work.

10. Dissertation:

Instructions relating to specific requirements may be obtained from OGAPS. The ability to perform independent research should be demonstrated by the dissertation, which must be the original work of the candidate. While acceptance of the dissertation is based primarily on its scholarly merit, it must also exhibit creditable literary workmanship. After the Advisory Committee and Chair of the Faculty of Genetics approval is obtained (at least two weeks in advance of the due date to OGAPS), three copies must be filed with the thesis clerk of the Office of Graduate Studies by deadline dates announced in the OGAPS Calendar. See other specific instructions in the Graduate Catalog.

11. Time Limit:

All graduate work must be completed within 10 consecutive calendar years. If within this time period a student does not complete all requirements for the degree sought, he or she cannot receive graduate credit for any course work that is more than 10 calendar years old at the time of the final examination.

12. Application for Degree:

Application for the degree must be filed in OGAPS no later than the end of the second week of the semester, or the end of the first week of the summer term in which the student expects to complete graduation requirements. There is a \$30 diploma fee, which must be paid at the time of formal application. A fee of \$50 will be charged for applications submitted after the deadline. The Genetics Office should be notified when you apply to graduate so your file can be reviewed with time to address any problems.

13. Final Examination:

The exam must be passed by deadlines announced in the OGAPS Calendar.

- a. To take the final examination, a student must be advanced to candidacy.
 - b. An announcement of the final examination must be submitted to OGAPS at least two weeks in advance of the scheduled date for the final examination.
 - c. The candidate's dissertation, in a substantially completed form must be provided to the Advisory Committee, allowing sufficient time for review.
 - d. Students who plan to graduate at the end of August should register during the first term of the summer session in which they plan to graduate, even though degree requirements may make it necessary for them to register in the second term also.
-

APPENDIX II
Annual Committee Report
Preliminary Exams Information

Ph.D. Advisory Committee Annual Report
Program of Genetics
TEXAS A&M UNIVERSITY

Student: _____ Date Entered the Ph.D. Program _____

Meeting Date _____ Previous Meeting Date _____

Prelim Date (if applicable) _____

Committee Chair _____ Co-Chair _____
(if applicable)

Name of Reporting Committee Member _____

Journal Club(s) in which student regularly participates:

Summarize your specific recommendations to student:

Assess student's overall progress toward completion of the Ph.D. degree (circle):

Excellent

Satisfactory

Borderline

Unsatisfactory

Additional comments:

The Chair of the Committee will collect completed forms at the time of the meeting and copies will be provided to members of the committee, the student, and the Graduate Programs Office of Genetics.
Note: Failure to file an Annual Report with the Graduate Programs office will result in a block of registration.

APPENDIX III
Office of Graduate Studies
Additional Forms*

***Forms are available on-line at:**
<http://ogaps.tamu.edu/Buttons/Forms-Information>

HELPFUL HINTS



SCHEDULE OF LAB ROTATION DATES (FOR FIRST YEAR GRADS) 2015-2016

1st Rotation

Choices due: Monday, August 31, 2015
Rotations begin: Monday, September 7, 2015
Rotations end: Friday, October 9, 2015

2nd Rotation

Choices due: Monday, October 5, 2015
Rotations begin: Monday, October 12, 2015
Rotations end: Friday, November 13, 2015

3rd Rotation

Choices due: Monday, November 9, 2015
Rotations begin: Monday, November 16, 2015
Rotations end: Friday, December 18, 2015

Lab Decisions

Decisions due: Monday, December 14, 2016
Student enters new lab: Monday, January 4, 2016

If necessary, a fourth rotation can be arranged, beginning Jan 4, 2016

Note: Graduate students follow the Employee Holiday Schedule as listed below:

Thanksgiving	Nov. 26 and 27	(2 days)
Christmas	Dec. 23 thru Jan. 1	(8 working days)
MLK, Jr. Day	Jan. 18	(1 day)
Spring Break	Mar. 18	(1 day)
Memorial Day	May 30	(1 day)

(These dates are subject to change and approval of Coordinating Board of TAMU.)

PREFERENCE LIST FOR FIRST LAB ROTATION

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.

The rotation preference list is to be turned in to Julia Williams (109A Bio/Bio or MS 2128). Drs. Panin and Shippen will make lab rotation assignments in consultation with Principle Investigators.

Student Name: _____

Lab Choice for First Rotation

1. _____

2. _____

3. _____

PREFERENCE LIST FOR SECOND LAB ROTATION

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.

The rotation preference list is to be turned in to Julia Williams (109A Bio/Bio or MS 2128). Drs. Panin and Shippen will make lab rotation assignments in consultation with Principle Investigators.

Student Name: _____

Lab Choice for Second Rotation

1. _____

2. _____

3. _____

PREFERENCE LIST FOR THIRD LAB ROTATION

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.

The rotation preference list is to be turned in to Julia Williams (109A Bio/Bio or MS 2128). Drs. Panin and Shippen will make lab rotation assignments in consultation with Principle Investigators.

Student Name: _____

Lab Choice for Third Rotation

1. _____

2. _____

3. _____





