



EMORY

LANEY  
GRADUATE  
SCHOOL

Microbiology and Molecular Genetics  
Graduate Program

Graduate Division of Biological and Biomedical Sciences

# Microbiology and Molecular Genetics (MMG)

## Graduate Program Requirements and Guidelines

2024-2025

Revised: May 2024

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This handbook outlines program rules and requirements for MMG graduate program students. Students should also familiarize themselves with the rules and requirements of the Graduate Division of Biological and Biomedical Sciences and the Laney Graduate School via [their handbooks](#).

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## **MMG Leadership**

<b>Director:</b>	Chris LaRock
<b>Director of Graduate Studies:</b>	Shonna McBride
<b>Head Recruiter:</b>	Luisa Cervantes Barragan
<b>Executive Committee:</b>	Jonathan Owen - Student Representative Luisa Cervantes Barragan - Head Recruiter Lizzy Draganova- At- Large Member Marcin Grabowicz- Curriculum Chair Seema Lakdawala- DEI Faculty Rep (student selected) Bo Liang - At-Large Member Anice Lowen - At-Large Member Lefteris Michailidis- Seminar Co-Director Chris Neufeldt - Seminar Co-Director
<b>Program Administrator:</b>	Rathan L. Kersey

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### **Goal of the Program**

The Program in Microbiology and Molecular Genetics (MMG) provides training in the study of microorganisms and the use of microbial models to investigate basic problems in molecular genetics, cell biology and evolution. Students will take a common curriculum during the first two years. For more advanced training, students will choose among elective courses. In addition to completing this course work, students will undertake an original research project which will form the basis of their dissertation. Research training is offered in bacterial genetics and physiology, microbial development, molecular biology of viruses and bacterial pathogens, mechanisms of bacterial and viral pathogenesis, molecular biology of gene regulation, antimicrobial resistance, and antimicrobial and vaccine development. The program will offer the Ph.D. degree in Microbiology and Molecular Genetics through the Graduate Division of Biological and Biomedical Sciences (GDBBS) of the James T. Laney Graduate School (LGS).

### **Organization**

The MMG program is led by a Program Director. The Director is responsible for the overall administration of the program and will assure student performance to the University in the conferring of degrees achieved within the program. The Director will serve with the assistance of an Executive Committee. The Director shall chair the

Executive Committee, which includes presenting and overseeing subsequent votes on any program decisions or changes under consideration by the committee. The Program Director may advise the Director of Graduate Studies (DGS) in student matters, if asked, and may advise the Head Recruiter in recruitment decisions, if asked. S/he shall oversee the appointments of any new faculty members, ensure faculty compliance with program expectations and oversee the program budget. Finally, the Program Director is the program's liaison to the GDBBS.

The Executive Committee:

- Evaluates the credentials of prospective faculty members and decides on offers of positions.
- Makes recommendations to the Director regarding the operation of the program and the development of policies within the program.
- Makes recommendations to the Director concerning the curriculum of the program, including the development of new courses for the program.
- Makes recommendations on student issues and needs that arise.

The Executive Committee will meet as often as necessary to handle programmatic issues.

Each position in the Executive Committee will be held for 3 years. Members' positions will be up for election on a rotating basis such that multiple positions are up for election each year.

### **Election Procedures for Faculty**

Open positions will be announced on the faculty listserv each spring/summer. Faculty will have one week to nominate themselves or others. At the close of one week, the Program Administrator will announce nominations and share a hidden electronic ballot. Voting will be open for one week. Following section II.C.6 of the GDBBS Handbook, candidates for the positions of Program Director and DGS must be approved by the GDBBS Director and the LGS prior to the opening of balloting. The Program Administrator will oversee the vote and report results to the Program Director. The Program Director will announce results following the close of the voting week.

### **Election Procedures for Students**

The current Student Representative will solicit candidates from the post-candidacy students at least one month prior to the end of the term. If more than one student is interested, the current student rep will conduct a vote of the current student body using a hidden poll and announce the outcome to the students and Program Administrator following the vote.

The Program Administrator is the point of contact to assist all faculty and students within the program. For more information regarding the specific roles and responsibilities of each Executive Committee position, please contact the Program Administrator.

## Course Requirements

The following (or their equivalents) are required of all PhD students in the MMG Program:

### Fall Semester Year 1

IBS 504	Intro Prokaryotic Molecular Genetics	6 credit hours
IBS 590	Becoming a Successful Scientist	3 credit hours
MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 597R	Laboratory Rotations	1 credit hour
MMG 792R	Colloquium in Microbiology	1 credit hour
**JPE 600	Jones Program in Ethics	0 credit

**\*\*The Jones Program in Ethics (JPE)** is a comprehensive program to educate doctoral students in all disciplines in the ethical pursuit of scholarly research. Training will take place both within interdisciplinary forums and also within the student's graduate program. There are three elements to the program:

1. JPE 600, a one-day core course in scholarly integrity, supported by the Laney Graduate School in collaboration with the Emory Center for Ethics, *will be required of all incoming graduate students.*
2. Program-based training in ethics and the responsible conduct of research takes place within existing courses. Additionally, MMG and Immunology and Molecular Pathogenesis (IMP) students will attend faculty-led ethics seminars arranged by the MMG and IMP Directors. Six seminars will be presented according to the schedule announced by the Program Administrator. All first-year students are required to attend. This initial series is required for Candidacy eligibility. All fifth-year students are required to attend post-candidacy. Second and sixth year students must attend any lectures they missed in the previous year.
3. Students must attend a minimum of four JPE 610 topical public workshops, training sessions, or lectures offered by the graduate school before they graduate. These are not required to reach Candidacy, but students are encouraged to attend them early in their graduate school career. These are announced on the LGS listserv and will appear on the student's transcript as a JPE 610 course.

For more information visit the [JPE website](#).

### Spring Semester Year 1

IBS 513	Virology	5 credit hours
MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 792	Colloquium in Microbiology	1 credit hour
MMG 597R	Laboratory Rotations	2 credit hours

### Fall Semester Year 2

MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 792R	Colloquium in Microbiology	1 credit hour
IBS 522R	Hypothesis Design and Scientific Writing	4 credit hours
IBS 519R	Statistical Rigor, Reproducibility, and Experimental Design for Biomedical Data	3 credit hours

	Analysis	
MMG 699R	Advanced Grad Research	1 credit hour
**TATT 600	Teaching Graduate School Workshop	1 credit hour
**TATT 605	Teaching Assistantship	2 credit hours

**\*\*Teaching Assistant Training and Teaching Opportunity (TATTO)** is a Laney Graduate School teaching requirement that must be fulfilled before students are allowed to graduate. (see page 9 below for more info.) The requirement is usually fulfilled in the fall of your second year by completing TATT 600 and TATT 605.

TATT 600 consists of a two-day workshop prior to the start of the second year. Information about this course will be distributed to students over the summer.

TATT 605 consists of a one-semester TA-ship in either an undergraduate scientific course or an introductory level graduate course.

GDBBS Assistant Director of Student Affairs organizes all GDBBS student participation in TATT 600 and 605 and will contact students the summer prior to the academic year in which they'll participate. TATT 600 and TATT 605 do **not** count toward your 9 credit hours.

### Spring Semester Year 2

MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 792R	Colloquium in Microbiology	1 credit hour
XXX	An Elective from the Spring list (see below)	credit hours vary
*MMG 699R	Advanced Grad Research	credit hours vary

\*Between course work and Advanced Grad Research a minimum of 9 credit hours are required per semester to remain a full-time student. Register for Advanced Grad Research last to determine how many credit hours will remain in order to fulfill the 9-credit hour requirement.

### Elective Courses Suggested for Fall

IBS 515	Current Topics in Molecular Genetics	2 credit hours
IBS 542	Concepts of Immunology	4 credit hours
IBS 560	Model Genetic Systems	4 credit hours
MMG 797R	Directed Study (see requirements below)	credits vary

### Elective Courses Suggested for Spring

IBS 538	Statistical Design and Analysis of Experiments	4 credit hours
IBS 727	Genetics of Bacterial Pathogenicity	6 credit hours
IBS 568	Principles of Anti-Infectives	4 credit hours
IBS 539	Population Dynamics and Community Ecology of the Microbiome	3 credit hours
IBS 777R	Annual Reviews of Immunology	2 credit hours
MMG 797R	Directed Study (see requirements below)	credits vary

## Directed Study

The purpose of Directed Study (MMG 797R) is to allow advanced students, already into their research projects, the opportunity of specialized training in areas not represented by the current courses offered by either our program or other programs. An outline of the directed study must be submitted to the DGS or the curriculum committee for approval prior to registration.

## Additional Elective Options

Many MMG students take advantage of courses offered in the LGS public health sciences graduate programs such as Epidemiology and Biostatistics. There are also opportunities to take elective courses at Georgia Tech. For more information, contact the DGS or the Program Administrator. Please note that any courses taken outside of GDBBS ***must*** be approved by the course instructor and the program DGS before a student can enroll. Students must also discuss elective courses with their advisor to ensure the course will benefit their research and training trajectory.

## MD/PhD Requirements

MD-PhD students should email a copy of their Dissertation Advisor Assignment Agreement form to the MMG Program Administrator as soon as they affiliate with a lab but no later than September 1 of their G1 Year. Potential MD/PhD students will discuss joining the program prior to this time and in accordance with the MD/PhD program requirements.

## Fall of G1 Year

IBS 504	Intro Prokaryotic Genetics	6 credit hours
IBS 590	Becoming a Successful Scientist	1 credit hours
MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 792R	Colloquium in Microbiology	1 credit hour
*MMG 699R	Advanced Grad Research	credit hours vary
**JPE 600	Jones Program in Ethics	0 credit
***TATT 600	Teaching Graduate School Workshop	1 credit hour
***TATT 605	Teaching Assistantship	2 credit hours

## Spring of G1 Year

IBS 513	Virology	5 credit hours
MMG 792R	Colloquium in Microbiology	1 credit hour
MMG 790R	Advanced Graduate Seminar	1 credit hour
MMG 699R	Advanced Grad Research	1 credit hour
XXX An Elective from the Spring list (see above)		credit hours vary
Or IBS 500R	Statistics (name of the course TBD)	3 credit hours

\*Between course work and Advanced Grad Research a minimum of 9 credit hours are required per semester to remain a full-time student. Register for Advanced Grad Research last to determine how many credit hours will remain in order to fulfill the 9 credit hour requirement.



\*\*See information about the Jones Program in Ethics on page 5.

\*\*\*See information about TATTO on page 6.

### **Seminars, Journal Clubs, and Research Clubs**

All students will attend the weekly MMG seminar series (MMG 790R). In addition, there are weekly programs of invited speakers for the Department of Microbiology and Immunology, the Emory Vaccine Center, the Graduate Program in Immunology and Molecular Pathogenesis, the Graduate Program in Genetics and Molecular Biology, the Divisions of Infectious Diseases and Pediatric Infectious Diseases and Grand Rounds at the CDC, all of which often include topics of interest to MMG students. Often, seminar topics at Emory are chosen to correlate with the advanced courses being offered. For example, in IBS 504, there is generally at least one visiting speaker who lectures in the course as well as presenting a public seminar. In addition to these seminar series, MMG students typically have access to multiple less formal research/journal clubs. Students attend the MMG seminar every Monday and are required to give a Research in Progress seminar to the Program at least twice before graduating.

For student Research in Progress Seminars, two students will give a 30-minute presentation of their research during the regularly scheduled seminar time. Each student must do at least 2 oral presentations before graduating. If a student will graduate before the time of the 5<sup>th</sup> year RIP, oral presentations at the yearly GDBBS Symposium or a scientific meeting may fulfill one RIP seminar requirement. If the student wishes to substitute such a talk for this requirement, make this request of the DGS to ensure that the substitution is valid and recorded as such.

The Seminar Directors and Program Administrator will advise each student when they are due to present.

### **Laboratory Rotations**

There are two major reasons for the rotations: familiarization with a diversity of research topics, techniques and scientific approaches and the selection of the lab in which to perform your dissertation research. A *Laboratory Rotation Agreement Form* must be completed for each rotation.

At the start of the first semester, students attend an Introduction to Faculty Research series in which Program faculty briefly describe their research and lab. These presentations allow students to begin thinking about where they would like to rotate and who they may want on their dissertation committee.

Students are required to perform at least three rotations during the first year and the rotations should follow the dates indicated on the *Laboratory Rotation Agreement Form*. (All forms are available on the [MMG website](#).) Some students may decide to do an additional rotation during the summer after their second semester. If a student is not ready to affiliate with a lab after three rotations, the student should confer with the DGS prior to organizing any summer rotations and dates. Then, they should submit a *Laboratory Rotation Agreement Form* and promptly begin a summer rotation. Dates for the summer rotation should be worked out in consultation with the DGS.

At the conclusion of each rotation, the student submits a brief written report of the research they performed, to their rotation mentor, the DGS, and the Program Administrator. This report should be no more than four pages in length and should include the following components:

1. A brief introduction to the research area
2. A statement of the goal of the rotation project (e.g. to test a given hypothesis, develop a given assay, etc.)
3. A description of the work undertaken toward reaching that goal
4. A report of the results obtained (including figures or tables as appropriate)
5. Conclusions and future directions (future work may outline what work is still needed to fulfill the original goal or what new research directions would follow from the original goal).

In addition to the student reports, the DGS will collect statements from faculty rotation mentors. These statements will indicate how the student met or did not meet expectations and will include a suggested grade. If the grade is less than an “A”, the mentor will need to document where the student was deficient and what steps were made **prior** to the end of the rotation to address the needed changes. The combination of the student’s written report and the mentor’s statement will provide the foundation for the rotation grade. Rotations span the full academic year. The first rotation will be during the Fall term, the remaining two will be in the Spring. For the Spring semester, the DGS will average the two rotation grades together to issue a grade.

### **Advisors**

During the first-year lab rotation period the DGS serves as the official advisor for all students until the student chooses a dissertation advisor. The DGS meets with the students at the beginning of the fall semester to discuss coursework, rotations, and other first year issues and obligations, and will be available, along with the MMG Student Rep, to help guide students and assist with any problems that might arise.

Within two weeks of completing the 3<sup>rd</sup> rotation, the student should complete the process of choosing an advisor and proceed to enroll in MMG 699r for the Summer semester. If additional rotations are needed, the student will consult with the DGS about enrolling in MMG 597r for the Summer semester and then must choose an advisor by the end of the Summer semester, barring extenuating circumstances. This faculty member then becomes the major advisor for the student. However, the DGS remains a resource for all MMG students throughout their time in the Program.

The *GDBBS Advisor- Advisee Agreement Form* must be completed and submitted to formalize your advisor agreement. Students should submit a completed form as soon as they are able but not later than one month after the end of their last rotation.

In most cases, a student will complete their dissertation with the advisor they originally selected following rotations. In extenuating circumstances, it may be necessary for a student to switch advisors. Should a student need to change advisors, they should immediately contact their DGS, PA, and the GDBBS Assistant Director of Student Affairs for guidance on their options and to form a plan of action.

Note: Students who choose an advisor who holds the status of Affiliate or Adjunct (e.g. CDC, GA Tech) must have a co-advisor who has an Emory University faculty appointment

and is a full member of MMG.

## Choosing an Advisor

The most important decision a student will make in graduate school is the selection of a research advisor. This relationship will be the foundation of the student's training and future career endeavors and should not be entered into lightly. The Program encourages students and faculty to consider the following before making these agreements:

- 1) Is this a positive and enjoyable interpersonal match?
- 2) Do we have a clear understanding of how we will communicate? (frequency of one-on-one meetings and lab meetings, expectations at meetings, shared understanding of how lab notebooks are kept, preferred method of communication outside of regularly scheduled meetings i.e.: phone, text, email, pop-in vs. schedule, etc.)
- 3) Do we share an enthusiasm for the area of research and proposed project?
- 4) For students: Does this faculty member have a positive record of student training?
- 5) For faculty: Does this student's mode of and response to learning match my training style?
- 6) For students: Do I feel supported by this faculty member?
- 7) For faculty: Has this student shown respect for my lab and decisions?
- 8) Do I feel confident we can resolve conflicts that will arise?

The [LGS Mentoring Guide](#) for students is also a valuable resource in thinking about the type of mentoring relationship you would like.

The laboratory rotations provide the obvious opportunity to consider many of these questions. Additionally, students are encouraged to:

- ❖ Read all recent papers from the lab they are considering
- ❖ Talk with current students
- ❖ Talk with the DGS
- ❖ Schedule meetings with potential advisors to discuss questions important to each of you before establishing the relationship.

## Forming Your Dissertation Committee

The Dissertation Committee (DC) consists of five faculty members, including the advisor; at least three of the faculty members must be members of MMG (Adjunct faculty do not count towards this requirement). The constitution of this committee must be approved by the DGS. To formalize the committee selection, students must submit the [LGS Dissertation Committee Form](#) following the on-line submission instructions no later than March 15 of Year 2 in conjunction with the Abstract Submission Date (see "Qualifying Examination" info below for more on the Abstract.)

In addition to overseeing the student's general progress on their dissertation work, this committee will oversee the student's qualifying examination. The committee is assembled on behalf of the student. The composition of the DC is determined by the student in consultation with his/her advisor in order to ensure it includes faculty with appropriate research and training backgrounds.

Each committee will have a Committee Lead that is chosen by the student at the time that the committee is assembled. The student should ask the chosen faculty member if they are willing to take on the role of Lead. The Lead is someone other than the advisor or co-advisor and should be above the rank of Assistant Professor. The Committee Lead

moderates the DC meeting and is a designated contact for the student to consult should issues between the student and advisor arise. The Committee Lead does not replace the advisor. The advisor remains a voting member of the DC. To identify the Committee Lead on the LGS Dissertation Committee Form, put “Committee Lead” in parentheses adjacent to the appropriate person’s name.

### **Qualifying Examination**

By the end of May in the second year (G1 Year for MD-PhDs), students are expected to have submitted a research proposal to their committee and passed an oral examination based on this research proposal. The proposal should be related to their dissertation work and may be the same proposal that the student prepared in IBS 522R Hypothesis Design and Scientific Writing. The research proposal should follow the NIH proposal guidelines (See MMG Dissertation Research Proposal section below for more details). The primary purpose of this examination is to give the students the opportunity to develop an original and significant written scientific proposal and to defend it before a group of scientists who have relevant expertise. The examination is used as a teaching device and is one of the methods used to follow a student’s academic progress. Recommendations for improving a student’s progress are expected to result from each examination. In preparation for this milestone:

1) As noted above, students must formalize their dissertation committee by submitting the [\*LGS Dissertation Committee Form\*](#) by March 15. This committee will also be their examining committee.

2) Also by March 15 of the second year (G1 Year for MD-PhDs), students must submit to their committee a 200-300 word written abstract that concisely states the problem, an original testable hypothesis, and an outline of experiments to test the hypothesis. A specific goal of this exercise is to train students to think concisely and to write meaningful short abstracts. The student should also send a copy of the abstract to the DGS.

3) The Examining Committee will consist of the student’s Dissertation Committee, minus the advisor. The DGS, or a qualified alternate, will proctor the exam. (Students in the lab of the DGS or for whom the DGS is a member of their committee, will have an alternate DGS, typically a past DGS or the Director.) The advisor will be present for the exam, but cannot participate in the examination. Students are responsible for organizing the examination date with the Examining Committee, advisor and DGS (generally late April or early May). The full research proposal (**see section below regarding the Research Proposal**) should be submitted to the Examining Committee at least 2 weeks prior to the oral examination date, along with a copy of the Qualifying Exam Form. Students should contact the Program Administrator for assistance in obtaining a room for the exam, if needed.

4) The day of the exam, the Examining Committee will question the student on the proposal during the oral examination with three rounds of discussion. The first round of questions is aimed at the technical details of the student’s proposed research. The second round pursues more fundamental and quantitative areas concerned with the proposition and is oriented toward challenging the student’s intellect. The third-round concerns more peripheral areas that test the student’s knowledge of big-picture concepts within their field of research. Third round questions may also draw on the content of required MMG courses such as IBS 513 and IBS 504. The student is expected to use the

blackboard effectively to present a hypothetical working model and address questions; PowerPoint presentations are not permitted.

5) Immediately after the oral exam, the committee evaluates the student's performance, determines whether a need exists to retake an additional exam and makes written recommendations pertaining to future training on their copy of the *Qualifying Exam Form*. Students are also encouraged to speak with the faculty examiners after receiving their written comments.

6) The final step in the qualifying exam process is for the student to write a summary of specific action items and committee feedback in conjunction with their advisor. This summary statement of the feedback is then approved by signatures from each committee member on the second page of the *Qualifying Exam Form*. Students must submit all pages of the *Qualifying Exam Form* to the Program Administrator **within one week** of the exam to document this Program milestone.

7) Students may receive a "Pass", "Conditional Pass" or "Fail" from their examining committee. This determination is based off of a comprehensive assessment of their abstract, written proposal, and oral defense. The decision for Pass, Conditional Pass, or Fail for each exam component will be decided by a majority vote of the committee. In a tie, the proctor of the exam will consult with the committee to reach a final decision. If at least half of the members of the committee determine a Conditional Pass or Fail is warranted then the student cannot receive a Pass for that component of the exam.

a. If a student receives a Conditional Pass the committee will require the student to complete additional work documenting that they have acquired the knowledge necessary for a portion of their exam deemed insufficient. The committee will list a due date, and the student should ensure they submit the requested materials to the Examining Committee for review and to the Program Administrator for their file. In most cases, with a Conditional Pass, a student will not need to meet with the Examining Committee again as long as they submit what is requested by the due date.

b. If a student receives a Fail on their exam, they will have until the end of the second week of August to prepare the project, technical, and/or background knowledge the examining committee has identified as insufficient and complete a *Qualifying Exam* re-take. The committee should clearly note the areas of concern on the *Qualifying Exam Form* and the student should use this to guide their preparations for a re-take exam. The student should arrange a re-take exam date with their examining committee, and submit any written edits needed for their proposal to the committee two weeks prior to the re-take exam date. At the re-take, the student will work through three rounds of questioning just as before. The re-take exam should be documented on a new *Qualifying Exam Form* in the same manner it was for the original exam. The student should submit both sets of *Qualifying Exam Forms* to the Program Administrator within one week of their re-take exam.

A student may receive a Conditional Pass on a re-take, but the committee will need to list a specific remedy for a specific area of deficiency and give a very clear due date for completion of the remedy. The DGS will need to review and approve any Conditional Pass plans given by the committee before they become part of the student's permanent file. If a student does not complete the remedy in the time allowed by the committee, the Conditional Pass will revert to a Fail. If the student completes the remedy in the allotted time, the student may proceed in the Program and will be considered to have a Pass on their re-take. Examples of remedies include re-taking a particular course or reading,

discussions with their advisor, writing a review of a particular set of papers, etc.

A student receiving a Fail in a re-take exam will result in dismissal from the MMG Program.

## **MMG Dissertation Research Proposal**

The proposal should follow standard NIH guidelines for an F31 Proposal and contain a title page (title of your proposal and your name), abstract/summary (no more than 30 lines of text), Specific Aims page, Research Strategy section, and Bibliography/Literature Cited section. Students may use the proposal they prepared in IBS 522r or they may choose to prepare a new proposal. Either way, the proposal should reflect the work the student and advisor have agreed on as the framework for their dissertation.

The body of the proposal will consist of a Specific Aims page and the Research Strategy.

Specific Aims - ideally two or three major goals of the research project. This should be a brief introduction and hypothesis of the project and two or three explicit aims of the proposal - do not to exceed one page!

Research Strategy – consists of the following sections, not to exceed six pages total.

- 1) Significance (1-2 pages suggested) – Why is the research important and why should it be funded.
- 2) Preliminary Results (about 1 page suggested) – This section outlines experimental data that provide the basis for the proposed experiments. Ideally, the students should have some results of their own to present here; however, it is not unusual for students to have little or no solid data at this stage. Therefore, this section can include results from others in the PI's lab, or results from other labs that may be directly relevant to the proposed experiments.
- 3) Approach – (about 4 pages suggested) This section describes experimental design and methods. It should restate each Specific Aim individually and address rationale and design for the proposed experiments, techniques to be utilized, anticipated or possible results, and pitfalls and alternatives for the proposed studies. The examining committee is likely to focus their oral discussion primarily on this section.

Despite the page limits, the use of models, figures, graphs, tables, or flowcharts is encouraged when appropriate to support, supplement, summarize, or clarify specific topics that are addressed in the text.

There are no page limits to the Literature Cited section.

## **Admission to Candidacy**

All students are required to follow the Laney Graduate School requirements for candidacy. Most MMG students will reach candidacy by the end of their second year once they have passed their Qualifying Exam.

To be eligible for candidacy, the student must meet the following requirements:

1. Complete all program requirements for candidacy: coursework and other training required by the degree program, including program required JPE training



2. Complete qualifying examinations required by the degree program
3. Select Dissertation Committee and submit LGS Dissertation Committee Form
4. Complete TATTO 600, TATTO 605, and JPE 600
5. Resolve any Incomplete (I) or In Progress (IP) grades
6. Be in good standing with a minimum cumulative 3.0 GPA
7. Have earned at least 54 credit hours at the 500 level or above

Further details, including penalties for not meeting the LGS deadline, can be found [here](#).

### **Dissertation Committee Meetings**

The MMG program recommends that the first committee meeting be held within six months of passing the qualifying examination, and at least every 6 months thereafter. Starting in their seventh year, students must meet with their Dissertation Committee at least every four months. These meetings should be held “in-person” (i.e. not remotely). To aid in scheduling, however, one committee member can attend remotely. DGS permission must be obtained, in advance, for any additional remote attendees. Failure of a student to hold committee meetings within these required time frames without prior approval from their DGS will result in the student’s research grade being penalized to a minimum of C for the current term. The DGS may grant an exception and not penalize the research grade with adequate justification.

At least one week prior to the committee meeting the student must send all committee members the location of the committee meeting, a pre-filled MMG Dissertation Committee Meeting Form, and a two-page maximum progress report. This report should briefly remind the committee of the aims of the project, summarize the progress made since the last meeting, and summarize the next steps the student intends to take.

The objectives of the meeting are:

1. Discuss career development
2. Evaluate the progress of the student
3. Review short-term goals accomplished
4. Evaluate next short-term goals
5. Determine whether student is on track to graduate in a timely manner

At the first meeting of the committee the faculty and student will elect a Committee Lead. At all DC meetings, the student must incorporate the *MMG Dissertation Committee Meeting Slides*. These slides can be inserted wherever the student feels is most appropriate and are designed to ensure discussion about the student’s career goals and objectives. Each DC meeting will include a few minutes of focus on IDP-related concepts, i.e., some time to focus on the student’s career plans. Each DC meeting report will include a list of succinct goals for the student to accomplish before the next DC meeting. (Students propose the goals and the DC approves or modifies them.) Each DC meeting will include time for the whole DC, including the PI, to meet without the student, in order to discuss progress. Each DC meeting will include a few minutes for the committee minus the PI to meet with the student, to discuss the student-advisor relationship. (NOTE: This

is not optional. **Students must confirm on the DC meeting form that the conversation without PI happened.)**

On the *MMG Dissertation Committee Meeting Form*, after each meeting, the student will summarize the comments and feedback given by the committee and develop an action plan in conjunction with their advisor. **Within one week of the meeting**, all committee members must sign off on this summary and action plan on the *MMG Dissertation Committee Meeting Form*.

**Within 1 week of the meeting**, students must submit their progress report (2 page maximum), presentation slides, and *MMG Dissertation Committee Meeting Form* to the Program Administrator to be maintained in their file. This packet is the documentation of the student's meeting as well as confirmation of the student's adequate progress in the Program.

Please note that students should not provide refreshments for committee meetings.

### **Navigating Graduate School**

MMG provides an environment for scientific training and the development of professional skills, including clear communication, collaboration, and conflict management. When professionals are working closely together on projects, disagreements will arise from time to time. When such disagreements occur, MMG hopes to create a framework for students and their advisors to find a path to work together towards an outcome that is mutually beneficial. MMG recommends faculty and students follow these steps to resolve conflict:

**Step 1:** Always begin by attempting to resolve the issue amongst yourselves

\*Think about the environment, timing, and communication style to set up the conversation for the best possible outcome.

\*Use communication that is clear and calm. See the two articles below for some great insight and practical tips on effective communication.

<http://www.sciencemag.org/careers/2008/06/mastering-your-phd-better-communication-your-supervisor>

[https://sharepoint.washington.edu/phys/grad/Forms/phd\\_MentorCommunicationCWD.pdf](https://sharepoint.washington.edu/phys/grad/Forms/phd_MentorCommunicationCWD.pdf)

**\*Steps 2-4 can happen in any order or concurrently as needed for your situation.**

**Step 2:** Talk to your MMG support team

DGS: The MMG DGS will give you the program perspective on the matter - what the program expects of a faculty member and a graduate student in your specific situation. The DGS can be a sounding board or an advocate depending on your situation. Sometimes it is helpful to bring the DGS into the meeting to mediate the interactions between the advisor and the student.

Program Director: If the DGS is unavailable, you can also see the Program Director for the same support as you would have from the DGS.

Committee Lead: The Committee Lead is a designated faculty member on your Dissertation Committee who can advise you in the case of a disagreement with your

advisor and act as a mediator when needed. The Committee Lead may be an ideal resource for issues that relate directly to your research, since relevant scientific expertise may be an asset for resolving these concerns.

Program Administrator (applicable to students): The PA is a point of contact to all other resources in your program, the Division, and the University. The PA can act as a sounding board or a safe space to confidentially vent about your situation. The PA can also help you determine if your situation should be conveyed to other supervising entities (i.e : DGS, GDBBS staff, etc.).

Student Representative (applicable to students): Your student representative can provide peer support and context for your situation. They can help you think through how to communicate with the faculty member, share their own experiences and advice and offer a supportive, listening ear.

### **Step 3: Utilize the student's committee**

If a conflict arises between a student and advisor, the committee can serve as advocates for both the student and the advisor- depending on the situation. When used well, they can be an effective team for navigating disagreements and developing beneficial solutions. They are often the group most well versed with the science AND the personalities of the advisor and student. Both students and advisors should be able to contact members of the committee for feedback on the situation. Ask them how they would resolve it. If necessary, schedule a committee meeting. Ultimately, the committee has the responsibility of advising the student towards dissertation and defense and can intervene when either the student or advisor is making choices detrimental to this final goal.

### **Step 4: Utilize GDBBS staff**

Contact the Assistant Director of Student Affairs, Emily Neutens. She has a wealth of experience on behalf of faculty and students. She is a fantastic listener and well versed in the resources on campus as well as the Graduate School policies and Division policies that may pertain to your situation.

Finally, here are a few additional resources for faculty and students that can help maximize the mentoring relationship:

[http://www.icre.pitt.edu/mentoring/challenges\\_solutions.html](http://www.icre.pitt.edu/mentoring/challenges_solutions.html)

<http://www.ohsu.edu/xd/education/schools/school-of-medicine/faculty/mentoring/mentoring-best-practices/index.cfm>

[http://www.emory.edu/CAMPUS\\_LIFE/initiatives/programs\\_and\\_resources/ombudsperson.html](http://www.emory.edu/CAMPUS_LIFE/initiatives/programs_and_resources/ombudsperson.html)

[Building Successful Mentoring Relationships: LGS Student Guide](#)

[Building Successful Mentoring Relationships: LGS Faculty Guide](#)

### **Dissertation and Final Defense**

Students should refer to the LGS handbook and website for important information regarding [dissertation completion time](#), [forms](#), and [due dates](#) each semester.

Each student will be expected to submit a written dissertation in compliance with the rules and deadlines of the Laney Graduate School. To receive the Ph.D. degree, the student is expected to have completed an original contribution to research, as demonstrated by publications in leading peer-reviewed journals. Generally, a minimum of one first author paper should be published by the student in a top-quality journal indexed in PubMed (professional society-level journal or higher), though most students will be expected by their advisor and committee to exceed these standards.

Approximately six months prior to the anticipated defense, the student will meet with the committee to outline progress, publications and anticipated publications, and plans for completing the dissertation research. At this time the committee either approves of the plan or outlines further recommendations or requirements for the student. When the plan is approved, the student will move towards completion of manuscripts to be submitted and the formal written dissertation.

At this point, in preparation for the defense and graduation, it is recommended that the student refer to the “Planning for Graduation” checklist located at the bottom of the [MMG Student Timeline](#).

The dissertation should be made available in final form to the committee at least 2 weeks prior to the public, oral defense.

The dissertation and its presentation should demonstrate that the student has learned to plan, design and interpret experiments independently.

In anticipation of the public defense, the student must submit a Defense Flyer and Program to the Program Administrator to be distributed on the seminar listserv and posted on the program website calendar. These public announcements must go out at least 2 weeks prior to the public defense. Templates for these items are available on the [program website](#). Public defenses are required to be in-person, but a remote “hybrid” option is allowed to allow family and friends to attend remotely. All committee members must be present and in person (up to one remote attendee is allowable; seek DGS permission if additional remote attendees are necessary). According to GDBBS regulations, only one member of the committee may be absent and it must be documented (see GDBBS Handbook, p. 35, sec .13, par. 2).

Following the oral defense, the dissertation committee examines the student further regarding the research and decides on the final acceptance of the dissertation. Approval of the dissertation by the Dissertation Committee should be unanimous. In the event of serious disagreement, the Executive Committee of the Program will review the opinions of the committee members and make a final determination.

The written dissertation should contain:

1. An inclusive (5-10 page) introduction to provide an overall background for the manuscript(s) / research chapters
2. The published or to-be-published manuscript(s) (for multi-author manuscripts, the actual contribution of the student to the paper should be summarized)
3. Other unpublished results which can be included as separate chapter(s)
4. A summary and conclusion section (5-10 pages) in which the contribution of the dissertation research to the field is discussed and future directions following on from the dissertation research are discussed
5. References / Literature Cited

Other papers by the student on other topics may be included as an appendix.

Your dissertation must meet all [Laney Graduate School requirements](#).

### **Master's Thesis**

In certain instances, it may be necessary for graduate students to complete their course of study with a terminal Master's degree. The advisor and student together will request to have the student switched to a terminal Master's track by contacting the Director and DGS. If the program approves, the Director or DGS will inform the GDBBS office by contacting the Program Administrator and Associate Director of Student Affairs (GDBBS). To be eligible to receive a Master's degree, the student must perform a research project and complete an acceptable Master's Thesis. The organization of the thesis is similar to that of the traditional Ph.D. dissertation, which would include, in order, the following sections: Introduction, Materials and Methods, Results, Discussion and Literature Cited. The student will defend the thesis at a closed meeting with his or her committee. The committee will determine if the body of work completed and presented is sufficient to constitute a Master's thesis and warrant a Master's degree. After graduating with a Master's degree, the student may return to the program but will need to re-apply for admission.

### **Review of Student Progress**

The Division Handbook has established certain minimum standards for Academic Performance which the program will enforce (see handbook [here](#)). Some relevant language is excerpted here:

#### **GDBBS Policy 9. Minimum Standards for Academic Performance**

1. GPA Standards and Probation: All GDBBS students must maintain a minimum GPA of 3.0 in each term (i.e., fall, spring and summer) of graduate work. If a student's term GPA is below 3.0 in any one term of work, that student will be placed on academic probation. Grades of U or F in a course, regardless of credit hours, will also lead to the student being placed on academic probation. With regards to cumulative GPA, GDBBS students must maintain a minimum cumulative GPA of 2.7 throughout their time in the Program, as required by the LGS.

2. Causes for Recommending Dismissal: Two consecutive terms of probation or four terms of probation at any point in the student's graduate career will lead to the Division recommending to the LGS that the student be dismissed from the Program. Additionally, if the student receives a grade of F in 597R, 599R, 699R, 799R or Directed Study, the Division Director will immediately recommend to the LGS that the student be dismissed from the Program, regardless of probation status. Programs may also recommend a student's dismissal due to failure to pass their qualifying exam(s).

### **GDBBS Policy 13. Students in Academic Difficulty**

Programs must inform the Division when students are not meeting required standards. This information should be provided to the Division Director and to the GDBBS Assistant Director of Student Affairs. The GDBBS will work with the programs to ensure that proper GDBBS and LGS policy and procedures are followed in a timely manner.

The Director, DGS, Program Administrator, student, and student's advisor will meet to discuss the student's progress and develop a plan to address the student's learning needs. If a letter of appeal is requested by the Laney Graduate School, the student will draft this with assistance from their advisor and Program leaders and ensure they meet the deadline.

Throughout the year, the DGS and Director will meet to review the progress of all students in the program. For first year students, this is based on grades and rotation project work. For second year students, this is based on grades and successfully passing the Qualifying Examination. For students in years 3 and up, this is based on the research grades issued by the advisor and the Dissertation Committee reports from meetings as well as completion of meetings within the time frame required of the Division as listed in the [Division Handbook](#). If any students are in jeopardy of not progressing towards their degree due to failures on the Qualifying Exam, low grades in courses, or missed committee meetings, the Executive Committee will meet to discuss the student's situation, vote on whether the student should remain in the Program, and outline the steps needed to regain satisfactory standing. Prior to the meeting, the Director will notify the student and advisor of the concern, and ask if they have any information that they would like the Executive Committee to take under advisement. Following the meeting, the Director will meet with the student and advisor to share the outcome of the committee's discussion and clearly line out what steps need to be taken and the time frame for completion.

### **Transferring Programs**

Students currently enrolled in other Programs within the Graduate Division of Biological and Biomedical Sciences should send a letter to the Director explaining their reasons for requesting a transfer to the MMG Program. Each request will be considered by the Executive Committee, which may require that a transferring student take one or both parts of the Qualifying Examination, as well as specific courses. The program the student will be transferring to also needs to provide the student with written documentation of any additional requirements that will need to be completed. MD/PhD students need to complete this transfer process once they have started their G1 year in the fall. If approved by the Program, the request will then need to be reviewed and approved by the Director of the GDBBS and the Dean of the LGS. If a student is transferring to a non-GDBBS program, then they only need to complete the LGS Program Transfer Request form.

### **Attendance at Scientific Meetings**

When they have reached an appropriate stage in their research, trainees are encouraged to present their results at both local and national meetings. Attendance at such meetings should help in meeting others engaged in their field of research and to explore future job opportunities. It will also provide them with important experience in communication and presentations skills as they listen to a variety of presentations by others of current research.

If students would like to receive Professional Development Support Funds for attending and presenting at a conference they should refer to the [Laney Graduate School PDS Funds Handbook](#). Students may direct questions about PDS Funds to the Program Administrator.

### **Time Expectations for Graduate Students**

Graduate study is a full-time endeavor. Students receive a stipend and are expected to be actively attending classes or conducting research and working toward the degree year-round, including the period between terms. The time between terms (along with Fall and Spring Break) is considered an active part of the training period. Students should discuss breaks with their DGS and Rotation Advisor (if in the first year) or Dissertation Advisor (after advisor selection) and receive approval in advance. Breaks should typically be limited to two weeks per year. Unauthorized absences may result in an unsatisfactory research grade for the term (i.e., in fall, spring, or summer), and could thereby lead to probation.

### **Graduate Student Parental Accommodation Policy**

LGS Parental Accommodation Policy is for students with substantial parenting responsibility as a result of childbirth, care of newborn, or a newly adopted child. This policy guarantees PhD students a minimal level of accommodation during the transition of parenthood. For more information on the policy, eligibility requirements, and application procedure, go to [this link](#).

### **Employment Restrictions Policy**

Doctoral education demands full-time effort. Students receive stipends and tuition fellowships in order to allow them to commit the necessary time to their studies and research. Unrelated employment serves as a distraction and interferes with the ability of students to meet degree requirements in a timely manner. For these reasons, employment not directly related to students' degree requirements and professional development goals is strongly discouraged.

If additional income is absolutely necessary while a student is enrolled in the degree program, s/he must receive prior approval from her or his advisor and DGS. The DGS has the prerogative to bring the request to the program's Executive Committee for discussion.

Requests to work more than 10 hours a week require the completion of the above process as well as written approval from the Dean of the Laney Graduate School. Students who wish to request permission to seek employment should allow 30 days for review. In the rare cases in which approval is granted, students must ensure that employment does not interfere with research performance, progress toward degree, or any program requirements, including seminar attendance.



## **Additional Policies of Interest**

Please note [these additional Emory policies](#) that have been highlighted by the LGS.

## **Student Support Services**

Graduate school can be a stressful time on your body and mind. Be sure you are taking care of yourself. Go to [Laney Graduate School student support page](#) and the [GDBBS student support page](#) for links to all student support services available to you.

## **Accessibility Services**

As noted on the [Office of Accessibility Services website](#), “Emory provides all persons an equal opportunity to participate in and benefit from programs and services afforded to others. The Office of Accessibility Services (OAS), part of the Office of Equity and Inclusion, assists qualified students, faculty and staff with obtaining a variety of services and ensures that all matters of equal access, reasonable accommodation, and compliance are properly addressed.” OAS “is committed to providing access to campus resources and opportunities to allow students with disabilities to obtain a quality educational experience.”

Qualified students need to register with OAS and make a request for services. Confidentiality is honored and maintained.

## **Faculty-Specific Program Policies**

Faculty advisors are expected to assist their students in meeting the requirements outlined above. Additionally, as a member of this training program, MMG faculty should:

- 1.) Attend at least 3 MMG student presentations/year. These can be dissertation defenses, student research in progress seminars, or an MMG presentation at the DSAC Symposium.
- 2.) Teach an average of 1 hour/year over a 3-year period in classes attended by MMG students.
- 3.) Be available to serve on at least 2 MMG student dissertation committees.
- 4.) Be available to serve at least 5 hours/year for the MMG Program. Service includes holding a Program Leadership position, Program committee work, administering qualifying exams, or attending Program events.
- 5.) Be available to participate in the MMG Recruitment events if not out of town.
- 6.) Respond to the annual MMG faculty review survey as well as NIH-required trainee information requests within deadlines given.
- 7.) Maintain a positive and safe training environment that follows the Ethics and Conduct expectations set forth in the [Emory Faculty Handbook- Chapter 12](#).
- 8.) Adhere to the University expectations for graduate advisors as outlined in [Emory Policy 7.9](#).

## **Appeals, Grievance Policy, & Honor Code**

### **Appeals**

Students who believe that an assigned grade is incorrect should first discuss the assigned grade with the course instructor. After discussion, students who do not think the problem has been resolved in this manner should address their concern to the Program Director or DGS, who will seek to resolve the matter with the instructor and the

student. Consistent with principles of academic freedom, responsibility for evaluation of a student's course performance rests with the course instructor. Use of this procedure for resolution of a grade dispute will not prejudice in any way a student's rights under their Program, GDBBS, Laney Graduate School, or University student grievance procedures.

### **Grievance Policy**

Students who have a potential grievance related to some aspect of their Program may discuss it with their DGS, PA, the GDBBS Assistant Director of Student Affairs and/or the LGS Assistant Dean of Student Affairs for consultation before taking action, if desired. If the student decides they want to file an official grievance, they should notify their DGS by providing a letter addressed to the DGS that describes the grievance and relevant details. **If the grievance is related to an academic component or milestone, the student should submit their grievance letter within 30 days of the date the outcome was conveyed (i.e.; notice of qualifying exam result or posting of grade to transcript).** The DGS may try, if possible and deemed appropriate, to resolve the grievance informally in conversation with the student and relevant parties. If this is not successful or not appropriate, the DGS will inform the Division Director and Assistant Director of Student Affairs for GDBBS that the student is moving forward with a formal grievance process. Next, the DGS will convene a meeting of the Program Executive Committee, which will review the grievance and provide an appropriate response. The DGS may gather additional relevant information and will provide all information and the student's grievance letter to the Committee. The Committee will meet face-to-face to discuss the grievance and review relevant materials. A majority of the EC must be present and only those present may vote on the outcome. Votes will be taken via electronic ballot to ensure confidentiality. In all cases grievance decisions are confidential and should not be shared outside of the grievance meeting. The DGS will notify the Division Director and Assistant Director of Student Affairs for GDBBS of the outcome. Finally, the DGS will provide a letter to the student via email notifying them of the outcome and options for next steps. If deemed necessary, the DGS may involve the Program Director in the process.

If the grievance concerns the Director and/or DGS, the student should review the GDBBS Grievance Policy found in the GDBBS Handbook for guidance.

If the grievance concerns the GDBBS Director, the student should bypass the Program and Division and follow the LGS Grievance Procedure found in the LGS Handbook under Honor, Conduct, and Grievance, Section 4.

Finally, if the student does not feel their situation is resolved at the conclusion of the Program Grievance process, they can refer to the GDBBS Grievance policy for guidance on additional options for seeking resolution.

### **Student Honor Code and Conduct Code**

All students should familiarize themselves with and adhere to the Laney Graduate School Honor Code and the Laney Graduate School Conduct Code as outlined in the Graduate Student Handbook (<http://gs.emory.edu/handbook/>). This deals with the professional standards and conduct demanded of all graduate students, as well as the

procedures for reporting and adjudicating any violations. **Continuance of stipend support is predicated upon satisfactory progress by the student toward a degree and adherence to the Honor and Conduct Codes.**