

**Program in Biochemistry, Cell, and Developmental Biology**  
**Graduate Division of Biological and Biomedical Sciences**  
**Laney Graduate School**  
**Emory University**

*Information and Guidelines for Students and Faculty*

**February, 2019**

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**Notes on terminology:** Despite the common usage within the BCDB program to refer to all research as “thesis research” and all committees as “thesis committees”, the Laney Graduate School (LGS) uses these terms more specifically. Dissertation is the more appropriate term for the research and document resulting in a doctorate (PhD), while thesis is reserved for those resulting in a Master’s degree. Similarly, the LGS refers to the committee of faculty members that advise the student during the dissertation research as the dissertation committee. In addition, the LGS uses the term DGS for what we in GDBBS call the Program Director; while we in GDBBS typically use that term/acronym (DGS) for the person, typically working closely with the Program Director, who deals more immediately with student issues. Thus, on all LGS forms where it asks for the signature of the DGS, students should actually get the signature of the BCDB Program Director.

**Abbreviations used in the text include:**

**BCDB**, Biochemistry, Cell & Developmental Biology Graduate Program

**DGS**, Director of Graduate Studies

**GDBBS**, Graduate Division of Biological and Biomedical Sciences

**LGS**, Laney Graduate School (also referred to at times as the Graduate School of Arts and Sciences or GSAS)

**MSTP**, Medical Scientist Training Program

**PLE**, Post-rotation Laboratory Experience

**IMPORTANT**

BCDB students are accountable for compliance with the policies and requirements of the Laney Graduate School (LGS), the Graduate Division of Biological and Biomedical Sciences (GDBBS), and the BCDB Program. The LGS Handbook defines minimal requirements for all of its students. The GDBBS Handbook may have additional or more stringent requirements, and the BCDB Program may have additional or more stringent requirements. Students must comply with the most stringent version. In case of confusion or ambiguity, students should contact the program administrator or GDBBS for clarification and resolution.

These guidelines of the policies and expectations of the Program in Biochemistry, Cell, and Developmental Biology (BCDB) are continually reviewed and updated in an effort to keep them current. Official decisions on any aspect are rendered by the BCDB Executive Committee in consultation with the Program Director, Director of Graduate Studies (DGS), and the faculty of the Program. The BCDB Program provides students with the opportunity to develop theoretical and practical research competence in Biochemistry, Cell and Developmental Biology and related disciplines. Research interests of the faculty are described on-line at the Graduate Division of Biological and Biomedical Sciences (GDBBS) and BCDB Program websites.

## **PART I. ADMISSION TO GRADUATE STUDIES**

### **A. Admission Requirements and Procedures**

The BCDB Program is designed for students pursuing a PhD degree or the combined MD/PhD degrees. Application material, admission requirements, financial information and degree requirements are all available on the GDBBS website. All applications are made to the GDBBS with an indication of interest in the BCDB Program. The BCDB Program Admissions and Executive Committees evaluate applicants by having at least four faculty review the entire application file. Applicants are evaluated principally on research experience, educational background, letters of recommendation, and Graduate Record Examination (GRE) scores. A successful applicant typically has a strong science background in chemistry, mathematics, physics and biology. Students wishing to study for a Master's degree are not admitted.

Applicants interested in the combined MD/PhD Program should contact the Medical Scientist Training Program, Office of the Dean, Emory University School of Medicine, Woodruff Health Sciences Center Administration Building, Atlanta, GA 30322.

### **B. Admission of Transfer Students**

We do not normally admit students who are currently training in other graduate programs. We require that such students complete their current graduate program or resign from their graduate program before such applications will be considered by our normal procedures. However, we will confidentially consider a student's application with an appropriate explanation of why they have not resigned from their current program, according to the following policy:

1. The student must first submit a complete application, with the exception of letters of reference.
2. This material will be reviewed by the admission committee and the applicant will be advised as to the competitiveness of the application.
3. If the student wants to continue the application process, the references will be contacted, as well as the director of the current graduate program.
4. If the student's current program has no objections, we will then consider the application using our normal procedures, after completion of the application process through the GDBBS (see above).

### **C. Transfers to Other Programs at Emory**

Students admitted to the BCDB Program are supported by the GDBBS. As such, they may choose to do rotations or dissertation research with any of the Graduate Training Faculty of the Division regardless of his/her program affiliation, with the exception of the first rotation which must be with a BCDB faculty member. Thus, a student may be in the BCDB Program and his/her advisor could be a member of a different graduate program.

In this case it is recommended that the dissertation research committee be selected to ensure that the student's curriculum provides for training commensurate with other students in the BCDB Program.

In some cases, the student may wish to transfer to the graduate program where the proposed mentor holds a training appointment. This can result in changes in required coursework or exam scheduling to meet the requirements of the new program. A letter of intent requesting the transfer should be sent to the student's current program, to the intended program, and to the GDBBS Director. All parties must agree to the request for it to be approved. The Dean of the Laney Graduate School provides final approval of transfer.

## **PART II. TRAINING FACULTY MEMBERSHIP CRITERIA**

### **A. Admission Requirements**

Training members must be full-time independently funded Emory Faculty in good standing, and should have demonstrated expertise in the fields of Biochemistry, Cell or Developmental Biology or comparable molecular biological sciences and must have, or have the prospect of acquiring, sufficient extramural funding to ensure support of the students' research projects. Examples of documented expertise include doctoral and/or postdoctoral training in the field, and publications in major peer reviewed journals of the areas represented by the program. BCDB Faculty members have full membership, which equates to full rights and privileges, including the right to serve on any GDBBS committee or in an administrative position, and to act as dissertation advisors.

An application for membership to the BCDB training faculty requires the items as listed on the GDBBS Faculty Appointment Checklist and the BCDB Faculty Application form. The GDBBS checklist and BCDB Application form are available on the BCDB Program website. Please note that BCDB only accepts faculty under the category of Full Membership. The letter from the BCDB Program Director will be provided once the candidate is approved for membership by the BCDB EC.

The complete application packet should be sent to the BCDB Program Director and Chair of Faculty Membership. Once received, the applicant will be contacted by the BCDB Program Director to discuss the expectations for BCDB faculty. The BCDB Executive Committee then will review the application and, if approved, recommend an invitation for the applicant to present a research seminar open to the Emory community and specifically advertised to the Program faculty and students. The candidate's application will be made available to all Program faculty members at that time. Following the seminar, the entire BCDB faculty will be polled by anonymous ballot on the acceptability of admission administered by the Program Administrator.

The Program Administrator will forward the results of the faculty ballots and the candidate's application to the Executive Committee who will render a final decision on whether to accept the candidate into the Program. Following a favorable decision by the Executive Committee, a letter from the Program Director indicating the Program's acceptance of the candidate will be forwarded to the Division Director with the candidate's dossier. According to Graduate School guidelines, the candidate's dossier will be forwarded to the Dean of the Graduate School for final approval.

Current GDBBS guidelines restrict faculty membership to a maximum of two programs in the Division. In some rare cases the candidate can petition the Division Director for admission to more than two programs.

### **B. Faculty Responsibilities**

Program members are expected to participate actively in Program functions. This includes the honor and responsibility of serving as advisors to graduate students in the Program. The dissertation research advisor is financially and intellectually responsible for the development of that student and is the major overseer of the student's successful completion of the PhD. program. Such agreements should not be entered into without careful thought and consideration. BCDB faculty members are also strongly encouraged to teach in the Program's flagship course, *Foundations of BCDB*, to fulfil the Program's teaching requirement. Additional

contributions should be made in more than one of the following areas including, but not limited to, BCDB-relevant graduate-level teaching, student admissions, mentoring first-year student laboratory rotations, Program administration, participation in the preparation and grading of qualifying exams, attendance at research seminars given by outside faculty, Program faculty, and Program students, attendance at Program faculty meetings, voting on admissibility of new faculty members, and service on dissertation research committees.

For additional information on Faculty Responsibilities, please refer to the LGS Guide: Building Successful Mentoring Relationships

[http://www.gs.emory.edu/uploads/Mentoring%20Guide\\_Faculty\\_final.pdf](http://www.gs.emory.edu/uploads/Mentoring%20Guide_Faculty_final.pdf)

### C. Faculty Review

Each year Program faculty members will submit an annual report to the Chair of Faculty Membership. The Faculty Membership Chair and the Program Director will evaluate all completed reports and inform the Executive Committee of any faculty member found deficient in Program participation. Training faculty found to have not been sufficiently active in the Program will be notified and suggestions given to help them regain a full level of participation. The member has one year to demonstrate renewed commitment to BCDB, in the absence of which the member will be removed from the Program. The member can prepare a rebuttal statement and request immediate reinstatement through an appeal to the tenured members of the Executive Committee. If a faculty member being considered for removal from the Program as a result of lack of participation is the mentor of a BCDB student, accommodations may be made to minimize disruptions to the student's progress, with consultation of the Program Director and DGS. Re-appointment to training faculty status following a lapse in membership of more than one year will be considered by the same mechanisms described above for *de novo* admission.

Satisfactory Program participation requires displaying adequacy in: **1) Teaching** and **2)** at least one of the other two categories, **Research Training** or **Administration**. Teaching is evaluated each year at the end of the Spring semester based on teaching activities of the recently completed academic year and the anticipated teaching participation proposed for the upcoming academic year. Research Training and Administration are evaluated annually on the basis of activities in the recently completed academic year. Examples of each category are given below.

#### 1. Teaching:

- Teaching in Foundations as the instructor of record for a minicourse consisting of at least an average of 4 contact hours/year of classroom teaching time.
- Teaching in the Introductory Graduate Seminar class (BCDB 570r) for an entire school year as the instructor of record within the last two years.
- Teaching in the Hypothesis Design and Scientific Writing ("Grant Writing") class (IBS522r) for a semester as instructor of record within the last two years.

#### 2. Research Training:

- Membership on dissertation committees of **BCDB** students.
- Attendance at a significant number of student seminars and public dissertation seminars
- Attendance at relevant faculty research seminars.
- Having a dissertation student in your lab.

#### 3. Administrative:

- Participation in admissions/new student recruitment is required, including attending events and conducting interviews, during the annual admissions season or individual field visits to recruit at undergraduate conferences or academic institutions.

- Holding any executive office of the BCDB Program, including Program Director, Director of Graduate Studies, Executive Committee member, or active participation in other BCDB committees.
- Holding an executive office in the GDBBS, OR Laney Graduate School (but not within the administrative structure of another program), OR as an administrator elsewhere at Emory University (e.g. Dept. Chair).
- Writing and grading Qualifying Exam Part 1 questions.
- Grading research grant proposals for IBS522r – Hypothesis Design and Scientific Writing.

### **PART III. ADMINISTRATIVE STRUCTURE**

All graduate degrees offered by the BCDB Program are granted by the Laney Graduate School (LGS) and the GDBBS. The Dean of the LGS and the GDBBS Director are assisted in the formulation of policy and the resolution of problems by a GDBBS Advisory Committee, which consists of the Program Directors of programs offering graduate training. In addition, a Divisional Student Advisory Committee (DSAC), consisting of students from each of the Programs, affords a way for student concerns to be raised and discussed.

It is important to note that BCDB students must adhere to the policies and requirements of the LGS and GDBBS, as documented in their handbooks. Their requirements are minimal, and GDBBS programs may have additional requirements. The LGS Handbook, the GDBBS Handbook, and the BCDB Guidelines are all posted on the BCDB web site, and students are expected to be familiar with all of them.

#### **A. Program Director & Director of Graduate Studies (DGS)**

The Program Director will chair meetings of the Program membership and act as the liaison between the Program and the GDBBS. The Program Director will also serve as the Chair of the Executive Committee of the Program. Candidates for the Program Director position will be nominated and elected by a majority of the voting Program Faculty during a secret ballot vote. The Program Director may not be a departmental chairperson, serves a term of three years, and also is approved by the Dean of Laney Graduate School.

The DGS shall be elected by a majority vote of the Program membership at large for a three-year term. The DGS will serve as Vice-Chair of the Executive Committee. The DGS is the primary Program resource for the students of the Program and serves as students' advisor until they have permanent lab assignments.

#### **B. BCDB Executive Committee**

The BCDB Executive Committee functions in an advisory role in all matters concerning graduate students and the Program. It consists of nine faculty members: the Program Director and DGS and seven others elected at large by the Program faculty and serving three-year terms. In the event that an at-large position becomes vacated mid-term, the Program Director shall appoint a BCDB Program faculty member to serve out the remainder of the vacated term. If the Program Director or DGS position is vacated mid-term, the Executive Committee may appoint a qualified BCDB faculty member to serve the remainder of the term. Two student representatives, elected for staggered two-year terms by the student body, will also serve on the Executive Committee. The duties of the Executive Committee include reviewing applications for admission, graduate student curricula, student advancement toward degrees, faculty membership and participation, and administering the Qualifying Examinations. The Principal Investigator of any relevant training grant(s) will be considered *ex officio* member(s) of the Executive Committee. The Executive Committee will meet as frequently as needed to handle programmatic issues but at least two times per year.

## **1. Admissions Chair**

An Admissions Chair is selected from among the serving members of the Executive Committee of the Program on a year-to-year basis. The Admissions Chair serves as the head of an Admissions Committee, which is composed of a broad representation of the research interests of the BCDB Program. The committee's main function is to review applications, interview recruits, and advise the Admissions Chair.

## **2. Rotations Chair**

The Rotations Chair is charged with overseeing all aspects of the required first-year Laboratory Rotations course (described below) and serves as course director. This includes organization of faculty presentations in the Fall prior to the start of the first rotation period, advising students in mentor selection, ensuring rotation selection forms are completed, collecting and grading rotation reports, and assigning final overall grades for the Rotations course. The Rotations Chair may appoint a Rotations Committee comprised of faculty and senior students (typically, fourth-year students) to assist in the assessment and grading of rotation reports. While the size and composition of the Rotations Committee may be adjusted from year to year, typically it will consist of three BCDB faculty (on three-year appointments) and three senior students (on one-year appointments). Students and faculty are paired, and each pairing will grade and provide written critiques for one report from each first-year student throughout the rotations course. The Rotations Chair will report and obtain approval from the Executive Committee for each rotation selection or any concerns. The Rotations Chair is the primary contact for all BCDB rotating students, including those doing summer rotations as part of the GDBBS "Early Start" program before beginning classes. Students seeking to conduct 'Post-rotation Laboratory Experience (PLE)' after the end of the rotations course must obtain approval from the DGS, who will oversee the PLE.

## **3. Curriculum Chair**

The Curriculum Chair is charged with ensuring an optimal plan for the curriculum; including regular oversight and review of all required courses and their content, identifying and oversight of course directors, and student evaluations of both courses and training faculty/course directors. The Curriculum Chair shall appoint a Curriculum Committee of representative faculty and students, as needed, to assist and advise the Chair.

## **4. Qualifying Exam Chair**

The Qualifying Exam Chair is charged with assembling, editing, proctoring, and grading the Qualifying Exam Part I (written) at the end of the first year of coursework, but no later than four weeks after the last day of classes in the Spring semester. The Chair may appoint a Qualifying Exam Committee of faculty and student members to assist in these duties, as deemed necessary. The Qualifying Exam Chair is also charged with oversight of Qualifying Exam Part II (orals), ensuring appropriate examining committee composition (students should also consult with the Student Progress Chair) and timeliness of the exams. Finally, the Qualifying Exam Chair will report the results of both Qualifying Exam Part I and Part II to the entire Executive Committee with a recommendation for any remedial action. Details of each exam are described in PART IV, Section F.

## **5. Faculty Membership Chair**

The Faculty Membership Chair is charged with reviewing any applications of new faculty to the Program and making recommendations to the Executive Committee, first, as to whether to proceed with the faculty seminar, and later, as to the suitability for admission. The Faculty Membership Chair is also charged with collecting information from all faculty members annually and reviewing the level of participation. The results of that review will be reported to the Executive Committee for any corrective action deemed necessary. The Faculty

Membership Chair shall appoint a Membership Committee of at least three senior faculty members to assist in these reviews.

## 6. Communications Chair

The Communications Director is charged with oversight of the BCDB website and with interfacing with GDBBS and/or LGS staff to ensure accuracy and compliance with any issues surrounding the website or other communications. This will require monitoring the content of the web site and liaising with GDBBS to accomplish needed edits and updates. The Communications Chair also oversees production of the BCDB newsletter *The Leading Edge*. The Communications Chair may appoint a Communications Committee of faculty members and students as deemed necessary.

## 7. Student Progress Chair

The Student Progress Chair is charged with ensuring that students who have passed both qualifying exams and required coursework are making appropriate progress towards their degree. Second year students should consult with the Student Progress Chair while they assemble their dissertation committee during the Fall semester to be certain that it meets all Program requirements, including those for the Qualifying Exam part II oral exam committee. A component of this position is to ensure that students are up to date in meetings and paperwork and to ensure compliance with these aspects of the BCDB Guidelines and LGS requirements.

## 8. Student Representatives to the Executive Committee

The two student representatives of the Executive Committee are elected by BCDB students to serve two-year terms on the Executive Committee and act as full voting members in issues that affect the student body and the program in general. Student members are charged with providing the Executive Committee with student concerns, suggestions, and feedback as well as communicating Executive Committee actions back to the student body. Student representatives will be excused from any discussion relating to specific students or faculty members.

## PART IV. PROGRAM REQUIREMENTS

It is the student's responsibility to meet the LGS and GDBBS requirements for a degree within a reasonable timetable.

All students should familiarize themselves with and adhere to the LGS Student Honor Code and Student Conduct Code as found in LGS Handbook:

<http://gs.emory.edu/handbook/honor-conduct-grievance/honor/index.html>

<http://gs.emory.edu/handbook/honor-conduct-grievance/conduct/index.html>

The Honor Code and Student Conduct Code address 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 Code.**



## A. Coursework

BCDB students take the required coursework in years one and two. This core curriculum is intended to give each student the necessary foundation to be successful in biomedical research, including graduate training in the basic sciences and formalized instruction in oral and written scientific presentations. Students may take additional coursework; the core curriculum is intended to indicate the **minimum** requirements for all BCDB students.

BCDB students in year two and beyond must register for, attend and pass the weekly graduate student seminar series (BCDB790r Advanced Graduate Seminar), in both the Fall and Spring semesters. First-year students are required to attend the Advanced Seminar as part of their Introductory Seminar class. Each student in year two and beyond is required to present their research results annually in this forum. A senior student who plans to complete their dissertation defense within a given year may request being excused from the mandatory attendance requirement and presenting in BCDB790r only if their scheduled seminar date is within three months of their dissertation seminar date, and after consultation with the Course Director of BCDB790r.

*NOTE ABOUT ELECTIVES: The list of available courses is continually changing so students must consult the current LGS Course Atlas to obtain accurate information. Not every elective course is offered every semester or every year.*

Course #	Course name	Credits
<u>Year 01-Fall</u>		
BCDB501	Foundations in BCDB I	10
BCDB570r	Introductory Graduate Seminar	2
BCDB597r	Laboratory Rotations *	2
JPE600	Scholarly Integrity Core Class	0
<u>Year 01-Spring</u>		
BCDB502	Foundations in BCDB II	10
BCDB570r	Introductory Graduate Seminar	2
BCDB597r	Laboratory Rotations*	2
<i>*Credits for Fall Term Laboratory Rotations are awarded in Spring Term, when final grade is determined after completion of all 3 rotations.</i>		
Qualifying exam - Part 1(written)	Two-day exam – organized by program, ~ mid-May	
<u>Year 01-Summer</u>		
IBS699R	Advanced Graduate Research	9
TATT 600	TATTO training Mentor chosen (~end of 3 <sup>rd</sup> rotation), Research underway	1
		<b>TOTAL: 37</b>
Course #	Course name	Credits
<u>Year 02-Fall</u>		
IBS522r	Hypothesis Design and Scientific Writing	4
BCDB790r	Advanced Graduate Seminar	2
IBS699r	Advanced Research	3

TATT605	Teaching Assistantship (either Fall or Spring semester)	2
<u>Year 02-Spring</u>		
IBS538	Statistical Design and Analysis of Experiments	4
BCDB790r	Advanced Graduate Seminar	2
IBS699r	Advanced Graduate Research	3
<u>Year 02-Summer</u>		
IBS699R or BCDB799r	Advanced Research (until approved for candidacy) Dissertation Research (after candidacy approved)	9
Qualifying exam- Part 2 (oral)	Must be taken after grants class and before June 1 – scheduled by each student	variable
<u>Year 03 - end</u>		
Elective(s)	At the discretion of student and mentor	
IBS699r or BCDB799r	Advanced Research (until approved for candidacy) Dissertation Research (to make total units = 9 per semester)	variable variable

## B. Laboratory Rotations

Laboratory rotations are intended to provide students an opportunity to sample different laboratory environments, assess available research projects and determine whether a potential mentor will be suitable for them as a Ph.D. dissertation research mentor. Equally, laboratory rotations afford faculty an opportunity to assess students' knowledge, research skills, motivation, work ethic, and how they might fit into their research program.

**Rotations Timetable and Mentor Selection.** The first rotation period typically begins in the third full week of the Fall semester following presentations by faculty and time for students to meet one-to-one with potential rotation mentors. Students are strongly encouraged to meet with a large and diverse group of potential PIs during this period, to gain perspectives on the opportunities available and to begin to familiarize themselves with the range of topics available to them for future research. It is at the Rotations Chair's digression to determine guidelines related to a minimum number of faculty to be contacted by students in selecting Rotation labs. Students have a wide choice of potential research mentors from within the BCDB Program. The only restrictions upon mentor selection are that the mentor for the first rotation must be a faculty member of the BCDB program and all mentors must be members of the GDBBS training faculty. Prior to each rotation, a "*Rotation Mentor Selection Agreement*" form must be submitted to the BCDB Office and the rotation lab selection approved by the BCDB EC. Forms and a detailed schedule of specific dates and deadlines will be provided at the start of the fall semester and are also available on the BCDB webpage.

The DGS will serve as advisor until a student has acquired a Ph.D. dissertation research mentor. After completion of the rotations course requirements, typically at the end of the third rotation period, each student **should** have a mentor who has the primary responsibility for direction of course and research activities necessary for a graduate degree in BCDB. **Paperwork for PhD dissertation mentor selection must be submitted to the DGS within two weeks of the end of the final rotation.** Following approval of selections by the BCDB EC the forms will be forwarded by the Program Administrator for formal confirmation by GDBBS and LGS.

**Laboratory Rotations Course Requirements.** Students must complete a minimum of three laboratory

rotations of about 10 weeks each, as part of their Year 1 curriculum. Research reports are required from the student after each rotation, as they are graded and factored into the Rotations course grade. Details of the content and format of the written report, along with tips for writing, are provided on the BCDB webpage. It is expected that mentors will assist by reading draft(s) of the report, or parts of it, and providing general comments for discussion. It is in the student's interests to get such feedback during the composition of the report but it is also the student's responsibility to allow sufficient time for this to happen and to meet any agreed deadlines for providing the draft copy. Rotation mentors are required to submit a letter grade for performance in the lab along with written comments supporting their grade. Grades for individual rotations are a combination of grades from the rotation mentors and members of the Rotations Committee who critique the reports. The Chair of the Rotations Committee will assign an overall grade for the laboratory rotations course using individual grades awarded for each rotation. Note that Laboratory Rotations is a two-semester course and every student will be given a "grade" of in-progress after the Fall semester. The final grade will be determined after all rotations and reports are completed and will apply to both semesters of this course.

**Summer Rotations.** The BCDB Program participates in GDBBS's "Early Start" which allows students to undertake a rotation over the summer before formally joining the Program. After accepting an offer of entry into the BCDB Program, students are free to directly discuss participation in Early Start with prospective rotation mentors. Students are also encouraged to discuss participation in Early Start with the Program Administrator and DGS prior to beginning this process. Application to Early Start requires a brief written (email) confirmation of interest from both the student and mentor to the BCDB and GDBBS offices. Further details on the application requirements and timing can be obtained from the BCDB Program Administrator.

Early Start typically begins in the first week of July and runs for around ~7-8 weeks. Although this is shorter than a standard BCDB rotation, because students are able to focus full-time on research with no coursework Early Start is considered as fulfilling one of the three required BCDB rotations. As such, a written rotation report must be submitted at the end of the Early Start rotation and will count towards the overall Rotations grade, as described above. Expectations of attendance at faculty presentations and one-to-one discussions with large and diverse group of potential PIs for subsequent rotations remain as described above. Students who participate in Early Start will complete the BCDB rotations requirements by the end of the second formal rotation period and may then proceed to dissertation mentor selection. However, students should be aware that some potential mentors may wish to defer decisions until the end of the Spring semester to accommodate other students in the standard third rotation period. This possibility should be discussed with potential mentors **before** joining their lab for a rotation. Also, in consultation with the DSG, Early Start students may elect to conduct a fourth ~10-week rotation and defer their dissertation mentor selection until the end of the Spring semester. This additional rotation will not count towards the Rotations course grade and a formal report is not required.

**Post-rotation Laboratory Experience (PLE).** After the third rotation period, a student without a dissertation research mentor may request approval from the DGS to postpone mentor selection and obtain additional laboratory experience during the summer semester. Such requests should be made as soon as possible but **no later than** the research mentor selection deadline, two weeks after the end of the third rotation period. The PLE must then begin no later than the first Monday following the Part I written qualifying exam. Any student who does not meet these deadlines or is without a research mentor for more than two weeks will be considered not to be making satisfactory progress toward the degree. Further PLE(s) are permitted in principle but require prior approval of the DGS and prospective research mentor. As a PLE is not part of the formal Rotations course, no written report is required, and the student may proceed to formal research advisor selection at any time with approval of the research mentor and DGS.

All PLEs must be completed by the start of Fall semester of Year 2. Any student still unable to find a member of the GDBBS faculty who will agree to serve as dissertation research mentor before the start of Fall semester of Year 2 will be considered not to be making satisfactory progress towards the degree and may be terminated from the BCDB Program after review by the BCDB Executive Committee. **It is the primary responsibility of each student to have a mentor, as the mentor and associated lab resources are essential requirements for the student to make scientific progress.**

## C. Grade Criteria

Students must attain an average grade of B or better in coursework each semester. A grade less than B in any required BCDB course is unacceptable. Mentors will assign grades in IBS699r (Advanced Research) or BCDB799r (Dissertation Research) and are encouraged to use grading that reflects progress made each semester. Students with an average grade of less than B or who receive a grade of less than B in a required course will be placed on academic probation, subject to review by the Executive Committee. Students on academic probation due to their grade point average have one semester to bring their grade point average above the minimum. Those who have received an unacceptable grade may not receive a grade less than B in any subsequent coursework. Failure to satisfy these criteria is grounds for termination from the Program.

*Repeat assessment of unsatisfactory progress by the student's committee also constitutes grounds for termination from the Program.*

## D. Dissertation Research Mentor Selection

One of the most important decisions made by a graduate student is the choice of research mentor. The following criteria are among those that should be considered when evaluating potential mentors.

### 1. Likely projects leading to publications

*What is the lab's track record for publication? Are these publications in quality journals?*

No creditable and competitive degree in an experimental science should be awarded without one or more full-length publications resulting from research. Any faculty member should be able to provide any student with their publication record.

### 2. Support for the research

*Is there a research grant, e.g. peer-reviewed funding, which can facilitate the purchase of necessary materials and services needed? How committed are funds toward other people and projects?*

An important measure of the quality and importance of the research effort is that external review by scientists knowledgeable in the field has led to the competitive award of money to support the project area. Such grants also reflect the judgment that training and past production of the principal investigator warrant the grant. Faculty members who have grant support will typically provide a copy of the scientific portion of the application to a student who wishes to peruse it. Some federal grant information can also be found online, e.g. for NIH from NIH RePORTER website (<https://projectreporter.nih.gov>).

### 3. Nature, scope and training to be provided by the dissertation project

*How certain are positive, publishable results? Is it likely that a breadth of techniques can be learned such that future development and versatility of the student are well served?*

First-class training for a modern scientist must provide a breadth of research experiences that significantly augment formal lecture and laboratory courses. It can be argued that a good research problem would be sufficiently open-ended as to allow several aspects of a major question to be approached by diverse methodologies.

**Before finalizing your choice of a dissertation research mentor, discuss possible projects with several potential mentors. No final commitments should be made to a faculty member by the student (or vice versa) until completion of three rotations. At this time, the GDBBS Mentor Assignment Agreement and the BCDB Addendum forms (available on the BCDB program website) should be completed and submitted to the Program Administrator. Final approval of mentor choice is decided by the BCDB Executive Committee. BCDB faculty members may not take more than two BCDB students per year into the lab and are strongly discouraged from taking more than two students from any program in any year.**

For additional advice on mentor selection, please refer to the LGS Guide: Building Successful Mentoring Relationships:

[http://www.gs.emory.edu/uploads/professional-development/Mentoring%20Guide\\_Student\\_final.pdf](http://www.gs.emory.edu/uploads/professional-development/Mentoring%20Guide_Student_final.pdf)

## **E. Student Dissertation Committees**

### **1. Function of the Dissertation Committee**

The duties of the dissertation committee include assisting the student in creating and executing an original, publishable research project, assisting in the preparation of an acceptable dissertation, and administration of the final oral examination (*aka* dissertation defense). The first committee meeting must be held no later than six months after Part II of the Qualifying Exam. Any later change in the membership of the committee must be approved by the DGS and is subject to approval by the Executive Committee. Students are encouraged to meet with committee members outside of committee meetings to seek advice on research, career, and other issues. The formation of the Dissertation Committee, as well as any subsequent changes, must be documented and submitted according to LGS procedures.

### **2. Formation of the Dissertation Committee**

A dissertation committee must be selected and paperwork submitted **no later** than the first day of class of the Spring semester of year two in residence. The committee is selected by the student in consultation with the dissertation research mentor, following which the *Dissertation Committee* form (available on the BCDB Program website) must be submitted to the Program Administrator for approval by the BCDB Executive Committee. The committee is comprised of the dissertation mentor plus at least four other faculty members, at least three of whom must be BCDB faculty members. The fifth member of the committee may be from outside the Program and even from outside of Emory. It is permissible to have additional members on the committee. Any three members of the committee (excluding the advisor) will constitute a quorum for the purposes of a meeting. The advisor must be present at all meetings, and all members must be present for Part II of the Qualifying Exam and the private dissertation defense. In some circumstances, the committee may allow one member to be absent from the public defense seminar.

Note that, unlike the *Dissertation Committee*, the *Qualifying Exam II Committee* must be composed entirely of faculty who are members of the BCDB program (4 examiners not including the mentor; see section G-1 below). The Dissertation Committee and QEII Committee will typically consist of the same group of faculty, except that a BCDB faculty member must be included as a QEII-only committee member in the event that there is a non-BCDB faculty member who will be part of the Dissertation Committee. Students are encouraged to discuss their proposed committee membership with the BCDB Director, the DGS, or the Student Progress Chair (Section B-7, above).

### **3. Format of Dissertation Committee Meetings**

A student scheduled to meet with their committee should prepare a brief written summary of items to cover during the meeting and distribute it to the committee at least one week prior to the meeting. *Rather than re-stating the entire project, this document should focus mainly on the outcome of experimentation conducted since the previous committee meeting.* This will help the committee to determine the extent of interim progress made, allow time for feedback prior to the meeting and help focus the content of the meeting. In addition to the written update, students should also provide their committee members with an updated NIH style Biosketch including any publications, abstracts, meeting presentations, and awards. In their Committee Meeting, students are required to include the Individual Development Plan (IDP) slides as part of their presentation as well as discussing research progress. Students experiencing significant difficulty in scheduling a committee meeting should contact the DGS or Student Progress Chair for advice.

### **4. Frequency of Dissertation Committee Meetings**

The first formal committee meeting must be held no later than six months after passing Part II of the Qualifying Exam (December 1, at the latest). This first committee meeting should follow closely the student's first research talk in the Wednesday seminar class (BCDB 790r Advanced Graduate Seminar) whenever possible.

Thereafter, BCDB Program students are required to meet with their committee **every six months, up to and including year five of graduate study**. In the sixth and subsequent years, students are required to meet with their committee at least every four months. An important function of the committee is to determine at each meeting whether adequate progress is being made. Thus, the frequency of meetings may be increased at the discretion of the committee at any time during this period. In cases where student progress is deemed to be inadequate, the committee may opt to identify specific goals for the following period. If the committee subsequently determines that lack of progress is due to insufficient effort on the part of the student, this may constitute grounds for suspension of stipend support or termination from the Program.

### **5. Documentation and Tracking of Dissertation Committee Meetings**

A *Committee Progress* form should be taken to the meeting by the student. **This form** (available on the BCDB website) **must be filled out, signed by the committee members present at the meeting and returned to the BCDB Program Office immediately after the committee meeting**. It is allowable for one committee member (not the mentor) to miss a meeting. A committee member who misses a meeting should not sign the meeting form, so the student should not delay turning in the form in order to meet with that member. If the student wishes to document a subsequent meeting with an absent member, a separate form should be used. The completed form is placed in the student's file and serves as a record to indicate progress in graduate research. The form also contains specific feedback to the student regarding goals to be accomplished before the next meeting. Committee members are strongly encouraged to fill out this section of the form, as it has proven to provide useful guidance and tracking for the student. Compliance with guidelines for committee meetings will be monitored by the Student Progress Chair and periodically reported to the BCDB Executive Committee. Students should be aware that the summer months are notoriously difficult times in which to organize a committee meeting. It is suggested that summer meetings be planned well in advance of the deadline. **Delinquency of committee meetings may be considered grounds for cancellation of stipend support or termination from the Program.**

### **F. Admission to Candidacy– Requirements**

Candidacy status is an indication that a doctoral student has developed sufficient mastery of a discipline to produce an original research contribution in his or her field. Students are expected to apply to LGS to become a candidate for the PhD degree, as soon as they are eligible.

Students must meet the requirements of the Laney Graduate School regarding total credit hours of coursework. To be eligible for Candidacy, students must have earned at least 54 credit hours at the 500 level or above, as well as additional requirements for Candidacy as outlined below. Most BCDB students will meet the coursework requirement by the end of Spring semester in year 2.

#### Eligibility Requirements:

- Complete all BCDB requirements for coursework and other training required by the degree, including BCDB JPE (ethics) training.
- Complete BCDB Qualifying Exam Part I (written) and Part II (oral).
- Complete TATTO 600, TATTO 605, and JPE600.
- Resolve any Incomplete (I) and/or In Progress (IP) grades.
- Be in good standing with a minimum cumulative 2.70 GPA.
- Have earned at least 54 credit hours at the 500 level or above.

Students enter candidacy by submitting the application, which is available on the LGS web site. Students are considered "in candidacy" when the Dean has approved the application to enter candidacy. At that point, it is documented on the transcript.

Most BCDB students will be eligible for candidacy by the end of Spring semester in Year 2 and should apply at that time. The deadline for BCDB students to apply for candidacy is the end of Spring semester in Year 3. To clarify, students should apply for candidacy as soon as they are eligible and there should be a justifiable reason for delay. Students **must** reach candidacy by September 15 of their fourth year in order to be in compliance with LGS requirements. Students who do not meet this deadline will be placed on academic probation, will not be eligible for PDS funds, and may forfeit financial support. These sanctions will be lifted when the student enters candidacy.

## G. Steps to Degree

### 1. Qualifying Exams

#### Part I

The Qualifying Exam Part I is a written examination of general or background knowledge and critical thinking, and is designed to accomplish two goals. The first is to motivate all students to learn and critically evaluate a broad range of scientific information in the basic biomedical sciences. We hope that in preparing for this exam, students will overcome the natural tendency to categorize scientific topics according to the courses or seminars in which they may have been presented, and to appreciate the inter-relatedness of all of these areas. The second goal of the Part I exam is to test both the knowledge base and critical thinking/writing of each student so that both the student and the Executive Committee can determine whether that student is prepared to progress in the Program. Hence, some questions on the exam may draw on specific information presented in classes or seminars, while other questions will require that students interpret and synthesize given data, propose hypotheses and describe appropriate experiments to test those hypotheses.

The Part I exam is given during May of the first academic year in residence and consists of a written examination of essay-type questions. The examination is closed book and is administered over the course of two days, with up to six hours to answer five out of six questions per day. The examination is prepared from questions solicited from the Program faculty and reviewed by the Qualifying Exam Committee and selected senior students. These questions cover a broad range of topics based primarily on the Foundations in BCDB curriculum (BCDB 501/502) and also can cover topics raised in the Introductory Seminar course (BCDB 570r), Journal Clubs and research presentations by visiting faculty hosted for official BCDB events. The exam is arranged into two sets of six questions, from which students choose five to answer on each day of the exam. At the end of the exam, each answer is independently evaluated by at least two faculty members who each assign a numerical grade. To pass the exam, students must (1) score 14/20 points or higher on seven of the ten questions they choose to answer, and (2) receive a score of 70% (140 points) or higher. Students not meeting these requirements will be handled on a case-by-case basis by the Executive Committee, but may be required to take another exam or may be terminated from the Program. If a retake is granted, it will be conducted by the BCDB Executive Committee within 30 days of notifying the student.

#### Part II

The Qualifying Exam Part II is designed to assess the student's ability to integrate different aspects of the first two years of graduate training; including lab work, data interpretation, hypothesis development, research design, presentation of research, and all other course work. The exam should require no more than two and a half hours and **must be completed before June 1** of the student's second year in residence. **It is the student's responsibility, though with consultation with the mentor, to assemble the committee and schedule the exam.** Because end-of-term activities and summer travel are approaching or already underway by late April, **the student is advised to schedule the exam at least two months in advance.**

Two weeks prior to the examination the student must distribute to the examining committee (1) a research proposal, and (2) their answers to all questions answered in the Qualifying Exam Part I (written exam). The proposal is typically the grant written in the grants class (IBS 522r), though it may be modified/updated by the student in efforts to optimally illustrate the proposed dissertation project. The written proposal will not be

evaluated by the examining committee but likely will serve as a focal point for questions and discussions. Similarly, the answers to Qualifying Exam Part I will not be considered in evaluating the student in Qualifying Exam Part II but may be used as a source of questions, particularly in efforts to ensure that the student has taken corrective action to correct deficiencies.

The composition of the QEII Committee will be made up of the Dissertation Committee assembled by the student and mentor as described above (Section E-2). If the dissertation committee includes a current member of the BCDB Executive Committee, that person will act as Chair of the exam. If no member of the BCDB Executive Committee is present on the examining/dissertation committee, or if the dissertation research mentor is the only member of the Executive Committee, then the BCDB Program must be alerted, and an Executive Committee member will attend the exam to serve as non-voting Exam Chair. The Chair is responsible for being fully apprised of all rules surrounding the exam. Prior to the start of the exam itself, the Exam Chair will describe to all the purpose of the exam, the rules of engagement, and the criteria by which the evaluation will be performed. The four examining faculty (which does not include the mentor) must be drawn from the BCDB program. If the student intends for the final dissertation committee to include a person who is not a member of the BCDB Program, a current BCDB faculty member must substitute for the non-BCDB Dissertation Committee member in the QEII examination. A BCDB faculty member selected to participate in the QEII examination is not required to remain on the final Dissertation Committee. Participation by the mentor throughout the exam is restricted to observing and answering questions posed by the committee specifically to him/her.

The examination consists of two parts. In the oral presentation, the student presents a pre-prepared summary or description of their research project; emphasizing the significance, hypotheses, specific aims, and the methods proposed. The presentation is followed by the oral examination, in which the student responds to questions from the examination committee.

### **Oral Presentation**

The oral presentation is limited to 15 minutes, though it may be extended by questions from the committee. The oral presentation should provide a brief background of the subject of the proposed dissertation research, the significance of the work, the hypotheses to be tested, the research design, and the interpretation or analyses of predicted outcomes. Committee members should limit interruption of the student during the oral presentation to clarification of specific points. Students are encouraged to rehearse the oral presentation in front of others; however, these rehearsals must exclude faculty participation.

### **Oral Examination**

Following the student's oral presentation, the committee members are permitted to ask brief questions regarding the presentation. Each committee member is then given ten minutes to ask any question they deem appropriate, without interruption by other committee members. At the end of each ten-minute question period, all committee members are given five minutes for follow-up questions on the topics covered in the preceding ten minutes. This format continues until each of the four exam committee members has had the opportunity for two, ten-minute periods in which to ask questions (i.e., twice around the table, for a total of no more than two hours (8 x 15 minutes). A five to ten minute break between rounds may be called for by the student or any member of the committee. The second round of ten-minute question periods per committee member may be shortened at the discretion of each committee member. While the research proposal will serve as a focus of the examination, topics of questions may include any areas identified as deficient during the oral presentation or later questioning.

### **Requirements to Pass Part II**

Following the completion of the oral examination, the student and mentor are excused from the room and the student's performance discussed by the committee. The student must have demonstrated general/background and more detailed knowledge relevant to the research proposal, and the ability to integrate different aspects of the first two years of their graduate training; including coursework and lab work with data interpretation, hypothesis development, research design, and presentation of research. That is, the committee is asked to assess whether the student is poised to embark upon an independent research project in which the student will supply the majority of the planning, execution, and interpretation of the data and write up the results for



publication. At least three of the four voting members of the examination committee must cast a passing vote in order for the student to pass the exam. The student is informed of the results of the exam by the entire committee at the completion of their discussions. In the case of a failed exam, the examining committee will send to the BCDB Executive Committee their decision of the failed exam and may propose a follow up. However, the Executive Committee will decide whether the appropriate response is to allow the student to re-take the exam or there is sufficient cause for termination from the Program. If a re-take is approved, it will be conducted by the BCDB Executive Committee and must be scheduled to occur within 30 days of the original exam. Any student failing the re-examination will be terminated from the Ph.D. program but may, with the approval of the examination/dissertation committee and mentor, petition the Executive Committee to write a Master's Thesis.

## **2. Application for Admission to Candidacy, Doctor of Philosophy**

This application should be made as soon as preliminary requirements are met, but students **must** reach candidacy by September 15 of their fourth year. The *Application for Admission to Candidacy* form is available on the LGS, GDBBS, and BCDB Program websites.

## **3. Dissertation and Final Oral Exam (Dissertation Defense)**

During the period of research, the dissertation committee must meet with the student at least every six months up to and including year five of graduate study, and every four months in year six and beyond, to review the progress of the research and the preparation of the dissertation. Upon completion or anticipated completion of the dissertation research, the committee grants permission to the student to write. This "permission to write" is indicated by the check box in the committee meeting report. A maximum period of six months (four months for students in year six and above) is permitted between the time a student receives approval from their committee to write and the private examination (dissertation defense) takes place. Failure to meet this deadline will require another committee meeting at which a decision must be made as to whether to extend this deadline or take alternative actions resulting from failure to progress toward the degree. An *Application for Degree* form (available on the LGS and BCDB Program websites) must be completed and submitted in the semester in which the degree will be awarded. Petitions for exceptions must be made in writing by the student to the BCDB Program Director and DGS.

### **Dissertation Completion**

Students are expected to complete their dissertations and apply for their degrees within six years. Once students begin the sixth year, it is important to review the LGS Handbook for current policies and procedures regarding the timeline for completion, including penalties for non-compliance.

The LGS and BCDB Program require the successful completion of two tasks before a degree will be granted: (1) submission of the written dissertation, (2) a closed-session oral examination (dissertation defense). Each requires the unanimous approval of the student's committee before proceeding to the next task. In addition, the BCDB Program requires an advertised, public seminar of the research be given by the student. The BCDB program requires that these be completed in order and each is described in more detail below.

**a) Written dissertation.** The general organization of the dissertation should be discussed and approved by the advisor and committee before it is written. The written dissertation must conform to LGS guidelines, but in general will consist of an original account of the background, approach, experiments, and conclusions of the dissertation research. Instructions for the format (e.g., font, margins, figures, etc.) of written dissertations can be found on the LGS website. Published papers may be bound as chapters in the dissertation, with approval of the committee, but original introductory and concluding chapters must be added. The cost of preparation of the dissertation is borne by the student. Except in very rare circumstances, there will be one or more first-author, primary, peer-reviewed papers that shall have been published or accepted for publication before the dissertation defense is scheduled.

After the dissertation has been read and approved by the dissertation research mentor, the student must give a copy to all members of the committee. The dissertation must be complete at this time, including figures and

references. The candidate will verify that the dissertation meets all graduate school requirements. *No sooner than two weeks* after distribution of the dissertation a final committee meeting must be held. This length of time should give committee members enough time to read the dissertation thoroughly before the meeting. Recommendations for substantive changes to the dissertation by committee members and revisions of it by the student must be made prior to the final committee meeting. Unanimous approval of the written dissertation is required at this last committee meeting. Minor editing of the written dissertation may occur at later times, prior to submission of the final document to the LGS. With approval of the written dissertation the defense then takes place, at that same meeting. In unusual circumstances in which scheduling problems cause excessive delays, no more than one committee member may be absent from this final committee meeting and oral defense. Any member absent from that meeting must meet individually with the student to both approve the written dissertation and perform an oral examination. All members of the committee must approve and sign off on the written dissertation and passing of the oral defense before the seminar can be scheduled.

**b) Oral dissertation defense.** The oral examination (dissertation defense) takes place at the same meeting of the committee at which the written dissertation is approved. Approval by the entire committee of both the written dissertation and oral defense are required, though one member may be absent from the final meeting. At no time during the oral defense should the advisor answer questions posed to the student. The student should consult the committee well before the defense date as to the details of the format to be used. Some committees may prefer a short (up to 15 minutes) presentation to help focus the examination, while others may feel the dissertation provides an adequate source of topics for the exam. The candidate must orally defend the dissertation and related areas to demonstrate an appropriate level of knowledge and expertise in research design and interpretation. After the exam, the student will be excused, and the student's performance will be discussed and evaluated by the committee. All committee members must confirm in writing that the student has successfully defended the dissertation. Alternatively, any perceived deficiencies must be documented in a specific plan for remediation at this meeting. With the unanimous approval of successful completion of the oral dissertation defense, the student shall schedule the public seminar to be held no sooner than two weeks after the dissertation defense. During this interval it is expected that all final changes to the written dissertation will be completed such that the final document is available to the committee before the public seminar.

**c) Dissertation seminar.** The public dissertation seminar is a formal scientific presentation. The atmosphere should be one that encourages critical questioning so that the student can demonstrate his/her expertise in an open forum. Care must be taken to preserve the formality of the occasion. At no time should the student or members of the audience be led to believe that a pass is automatic. The dissertation research advisor will outline the format of the seminar and introduce the student and their research in a manner similar to other research seminars. The advisor and the student should avoid personal comments as well as mention of subsequent parties at this time. Personal comments, congratulations and acknowledgements are more appropriate for the celebration following a successful completion of the dissertation seminar. The seminar consists of a 40-50 minute oral presentation by the candidate of a summary of the project, its significance, and future directions. After the student's presentation, questions from the audience are encouraged. The committee and advisor will meet with the candidate immediately after the seminar to evaluate the seminar and provide feedback and final approval that all requirements for the PhD have been successfully completed. While unanimous approval of the seminar is required by the committee, it is allowable for one (and only one) member of the committee to be absent from the public seminar, to facilitate scheduling and timely completion of required components of the degree. The student will schedule a separate meeting with that absent committee member to satisfy this requirement.

#### **4. Report of Completion of Requirements for Doctoral Degree**

Upon submission of a written dissertation, completion of a successful oral defense, and seminar, the student must complete and submit to the Division office the *Report of Completion of Requirements for Doctoral Degree* form (available on the LGS, GDBBS, and BCDB Program websites).

## **H. Master's Degree**

The BCDB Program is a doctoral program and as such does not normally support work toward a terminal degree of Master of Science (MS). However, under certain circumstances, a student may request permission to terminate graduate study by completing the requirements for a Master's degree. These include failure to pass Part II of the qualifying exam, poor progress during dissertation research, or simply a request on the part of the student to leave the program with an MS instead of a PhD. Based upon the student's performance, as assessed at various times during the degree program, the Executive Committee may also recommend such action.

Students may declare their intention to seek a Master's degree only after having passed Part I of the qualifying exam. When a student declares after passing Part II, he/she may discontinue enrollment in didactic coursework and Teaching Assistant Training and Teaching Opportunity (TATTO) activities. However, to remain in standing as a full-time student, the student must continue to enroll for the required number of credit hours of thesis research. Instead of either IBS699r (Advanced Graduate Research) or BCDB799r (Dissertation Research), Master's degree candidates must enroll in IBS599r (Thesis Research). The student will have one year from the date of declaration to complete the requirements for the Master's degree.

When a student declares an intention to seek the MS degree during the third year in residence, (i.e., after successful completion of Part II of the qualifying exam), the student must complete the requirements before August 1 of the third year in residence.

If a student has been in residence for three years or more, having met all requirements for the doctoral program up to that point, and then declares for the MS, the student will have three months to complete the requirements for the MS. Students who have declared for the MS degree and fail to meet the requirements within the specified time will not be eligible for receiving stipend support from any source, and will be asked to leave the Program.

Requirements for the MS degree include satisfactory completion of all required coursework, passing Part I of the qualifying exam, and completion and defense of a Master's thesis. Students seeking an MS degree are not required to participate in the TATTO program. A thesis committee must be formed as described for the committees in the doctoral program. The thesis must minimally describe the significance of the research proposal, the hypotheses being tested, the experimental approach(es) undertaken, any data generated (with appropriate analyses, controls, limitations, etc.), conclusions drawn, and a proposal for future work. The thesis must represent a scholarly body of work indicating a rigorously applied research effort. Both the written thesis AND its oral defense must be passed by the thesis committee before a degree is awarded. The decision by the thesis committee to award the degree must be unanimous. A Master's thesis presentation may be closed to the public, i.e., attended by only the thesis committee members. The BCDB Executive Committee will be notified when the defense is scheduled.

An Application for Degree must be completed and submitted by the deadline for the semester in which the student expects the degree to be awarded. Upon completion of all of the requirements, the student must complete a Report of Completion of Requirements for Master's Degree, which the members of the thesis committee must sign indicating their PASS or FAIL vote. This form must also be signed by the Program Director or DGS. These forms are available on the LGS and GDBBS web sites.

## **I. Changing Mentor**

While it is expected that most students will continue their research work with their faculty advisors until they complete their PhD degrees, this relationship may be ended at any time and by either party (student or faculty). Should this occur, the student and the advisor should contact the DGS immediately. The DGS will then serve as an interim advisor during a transition period while the student identifies a new advisor. During this period the existing committee (less the old mentor) will continue to serve to help guide the student through the transition.

The length of the transition period should be as short as possible, consistent with the ability of the student to make a careful choice of a new mentor, but must not exceed sixty days.

Students have a wide choice of potential research mentors from within the BCDB Program and the wider community of faculty in the GDBBS. It is the primary responsibility of each student to have a mentor, as the mentor and their lab resources are essential requirements for the student to make scientific progress. If a student who has completed at least three rotations is unable to find any member of the GDBBS faculty who will agree to serve as mentor, and this status lasts more than thirty days, then that student will be considered unable to make satisfactory degree progress and may be terminated from the Program after review by the Executive Committee.

**Mentor Leaving Emory.** If a mentor decides to leave Emory, a student may have to make decisions regarding the completion of the PhD degree. For example, the student might have the option of moving with the mentor while continuing to be enrolled at Emory; or of staying at Emory and working with a faculty collaborator. In every case, it is imperative for the student to notify the Program Director and/or DGS and the Program Administrator, who will assure that GDBBS is notified. GDBBS must be involved, in order to ensure that the student's resources, such as funding, health insurance, and academic support are uninterrupted.

Official LGS policy regarding faculty who relocate to another institution may be found here:  
<http://gs.emory.edu/handbook/academic-affairs/phd/dissertation-committee.html>

## **J. Professional Conduct**

### **Behavioral Expectations for Graduate Professional Education**

The BCDB curriculum is prepared and delivered by subject matter experts to a select group of adult professional students. The faculty and students share responsibility for maintaining a professional environment both in the classroom and in all program and laboratory situations. In the classroom, faculty responsibilities include beginning and ending class on time, presenting material that is relevant and current, responding to pertinent questions, and leading and moderating discussions related to the content of the class. Student responsibilities include arriving on time, active participation in class discussions, attention to presentations or discussions led by other students or faculty, raising pertinent questions, and maintaining a disciplined environment to maximize the learning experience for all.

To maintain a professional classroom environment students and faculty will be: (1) *Respectful* to those presenting or discussing the material and to those trying to listen to and understand the material, (2) *Quiet*, outside of participation in active discussion because *extraneous* talking is disruptive and distracting and will not be permitted (electronic devices will be silenced, cell phones will not ring or be answered during class, and laptop computer use will be confined to taking notes and other class-related activities at the direction of the instructor), (3) *Punctual* (a) Faculty will start on time, (b) students must arrive before class and be ready (quiet, in their seats with papers, notes, etc, out) to begin at the scheduled time; students entering late and or exiting the classroom after the class starts should make every effort to minimize disruption (c) faculty will finish at the scheduled time.

### **Recommendations for Optimal Classroom Learning and Professional Behavior**

Faculty members recognize that methods of learning vary and are unique to individuals. Discussion and active listening, note-taking and asking appropriate questions during classroom activities maximize the learning experience. Because electronic communication (texting, e-mailing, twitter, Facebook, etc.) during classes interferes with the learning of nearby students, and may be disruptive to the classroom as a whole, *all participants will refrain from these practices and focus on the classroom content.*

Faculty and students have the shared responsibility to maintain a positive learning environment for all students. Faculty members have the right to reprimand politely and/or excuse anyone disrupting the classroom

experience, in order to maintain an optimal learning environment for students. A student(s) and/or his/her/their class representative(s) are encouraged to first register any concerns or complaints to the individual faculty member to resolve the issue at the local level and in a timely manner. If this does not lead to appropriate resolution, then the student(s) may contact the BCDB program DGS and/or Program Director or GDBBS Director to discuss and resolve any issue relevant to maintenance of a professional environment.

Students should expect the faculty to establish and maintain a classroom environment conducive to effective learning, including modeling appropriate professional behavior and holding themselves and students accountable. The faculty appreciates and expects students' understanding, commitment, cooperation, and contributions to maintaining an appropriate and enriching teaching and learning environment. Students share at least some of these responsibilities and are encouraged to promote professional conduct at all times.

The research laboratory, seminars, and other program or departmental activities should also be viewed as professional events and the same rules of conduct should be observed. The use of cell phones and music in the laboratory should be discussed with the PI but in general should be kept to a minimum and only when not disruptive to others.

## **PART V. OTHER ACTIVITIES**

### **A. Teaching Experience**

The LGS requires each student to serve as a Teaching Assistant (TA) (course designation: TATT 605) for at least one semester during their graduate career, usually during the second year. The primary purpose of the teaching experience is to aid students in strengthening organization and communication skills. Prior to beginning the teaching experience, students are required to participate in the Teaching Assistant Training and Teaching Opportunity (TATTO) course (TATT 600).

Teaching opportunities for GDBBS students vary by the type of course, amount of responsibility, and time commitment associated with the teaching assignment. Teaching experiences range from overseeing one component of a laboratory course meeting once each week to co-teaching an undergraduate class with one or two professors. Students are encouraged to contact the instructor of record for a course they are interested in TAing and also should seek guidance from their Dissertation Mentor. Students should consider their time commitments during the semester they will be teaching as well as their professional goals when choosing which courses to TA. For students wishing to gain more pedagogical experience, additional teaching opportunities may be available beyond the one-semester requirement, some of which may provide additional academic credit or a small additional stipend. Any student seeking additional TA experience should consult with their Dissertation Mentor and obtain their approval prior to making a commitment to teach.

LGS Guidelines for Teaching Assistantship and training may be found here:  
<http://gs.emory.edu/handbook/academic-affairs/phd/tatto.html>

### **B. Ethics Training and Professionalization Workshops**

All students are required to participate in the Jones Program in Ethics (JPE) administered by the LGS:  
<http://gs.emory.edu/handbook/academic-affairs/phd/jpe.html>

There are three elements to the program. Completion of all elements (1) and (2) are required for candidacy, and (3) is required for graduation.

1. Students will take a 6-hour core course (JPE 600) in scholarly integrity, supported by the Laney Graduate School in collaboration with the Emory Center for Ethics. This course has no associated credit hours but must be completed in order to fulfill graduation requirements. Incoming students beginning their first year in their graduate studies will register for JPE 600 with the exception of incoming international students, who will take JPE 600 in their second year. Students should discuss the appropriate time to register for the course with the Program Administrator. Participation in this course will be recorded on the student's transcript.
2. Students will complete a minimum of 6 hours of training in program-based ethics material. The disposition of this time is at the Program's discretion. This training may take place within existing courses, such as methodology or professionalization courses. It may also take the form of faculty-led workshops or journal clubs. The intention of this part of the program is to promote student discussions with their own program faculty, and to integrate explicit attention to ethics into the regular course of graduate education. Separate registration is not required for this element. Students will be directed by their programs towards any requirements above and beyond regular course study. Student participation in this element of JPE will be monitored by the student's program. The Program will indicate on the candidacy form that students have fulfilled the minimum of 6 hours of program-based material.
3. Students will also participate in a minimum of 4 public topical workshops, training sessions, or lectures, designated by the Laney Graduate School as eligible for ethics training credit. These lectures and workshops will be sponsored by the LGS and the Emory Center for Ethics, and will include any other relevant occasional lectures or workshops. Students will bring their ID cards to the workshops to track attendance. Participation will be recorded on the student's transcript as sections of JPE 610.

In addition to the JPE program, the program Executive Committee is specifically empowered to make attendance at other events a requirement for all or a subset of students. Examples include:

1. All first- and second-year students are required to attend and participate in all sessions of BCDB Ethics workshops. Students in years three and above are required to attend at least one per semester.
2. All first- and second-year students are required to attend all BCDB Professionalization Workshops. Students in years three and above are required to attend at least one per semester.
3. All incoming/first-year students are required to attend the BCDB Program Retreat.

### **C. Seminars, Journal Clubs, and Symposia**

Seminars hosted by a variety of programs and departments are given by invited speakers throughout the academic year. Students are encouraged to participate in the scientific discussions and, when possible, arrangements are made for students to meet with guest speakers. In addition to the numerous seminars, other opportunities to participate in scientific discussions include journal clubs, data clubs, and yearly student-organized symposia. Attendance and participation at any BCDB symposium is mandatory for all training grant-supported students and strongly encouraged for all BCDB students. The BCDB training grant also supports a journal club; attendance is encouraged for all BCDB students and faculty and is required for first-year students. These activities are not credited courses, but a well-rounded graduate education will typically involve routine attendance at these events, which should be seen as an opportunity to learn about work in other fields.

## **D. Regional and National Scientific Meetings**

Students are encouraged to present their research at regional and national scientific meetings. Some travel money (PDS, or Professional Development Support) is available for students making presentations at open meetings. Students can apply for up to \$650 for domestic travel and \$1000 for international travel per year (September 1 – August 31). Applications for support should be made to the LGS. See the GDBBS Handbook for instructions on applying for PDS funds. Travel funds from the LGS are limited in amount per year, and in total amount per student so are unlikely to cover all costs. Students are encouraged to apply for travel awards from meeting organizers or other outside sources, with consultation from their mentor.

## **E. Vacation and Leave**

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 and is not considered a vacation or holiday. Students will continue to receive stipends during vacations and official University holidays. Students on training grants and fellowships may receive leave for the same vacations and holidays available to individuals in comparable training positions at Emory. 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. Students who are funded by research grants are allowed up to two weeks of vacation each year, in addition to official University holidays. Students who wish to take vacation leave must discuss this with their DGS (if in the first year) or Dissertation Advisor (after mentor assignment) and receive approval at least two weeks before the planned absence. Students who wish to take additional periods of times off must get approval from their Program's DGS and their Dissertation Advisor. In any year of training, if a student wishes to take time off that totals three weeks or more, per year, they must get approval from the Division Director at least one month before the planned absence.

## **F. Parental Leave**

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, please see:

<http://gs.emory.edu/handbook/academic-affairs/standards/parental-accommodations.html>

## **G. Leaves of Absence**

Requests for an unpaid leave of absence for any student must adhere to LGS policy (LGS Handbook), must be approved by the BCDB Executive Committee, and then forwarded to the GDBBS office for the Director's approval. The Dean of the Graduate School must give the final approval for any leave. For more information, please see:

<http://gs.emory.edu/handbook/academic-affairs/standards/withdrawals-leaves-of-absence.html>

## **H. Outside Employment**

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 the Program Director/Director of Graduate Studies. The Program Director/Director of Graduate Studies 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 written approval from the GDBBS Director and then 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.

## **PART VI. BCDB GUIDELINES FOR THE MD/PHD DEGREE PROGRAM**

### **A. Participation in BCDB Program**

Medical Scientist Training Program (MSTP) students choose a dissertation research mentor and a graduate program under the guidelines of the MSTP Program. Unless otherwise specified, the MSTP student is expected to fulfill all the requirements for the degree and participate fully in the BCDB Program. MSTP students are subject to the rules outlined by the BCDB Guidelines (see above). Because MSTP students often begin their BCDB coursework in the middle of the M2 academic year, the course of study differs from that of PhD-only students. The standard curriculum is described below but it is important that new students meet with the DGS to avoid any possible confusion.

### **B. Coursework Requirements**

MSTP students are expected to start coursework as close to the beginning of the Spring semester of M2 as possible, but no later than one week following completion of their board exams, around the end of January. MSTP students enter the BCDB curriculum by taking all required BCDB 1<sup>st</sup> Year Spring courses (Foundations (BCDB502), Introductory Graduate Seminar (BCDB 570R), and BCDB Journal Club).

MSTP students may choose to take Part I of the BCDB qualifying exam immediately following M2 Spring classes (see below). MSTP students who pass Part I at this point will take the required second-year BCDB courses and are exempt from the Fall Foundations course.

MSTP students who do not take and/or pass Part I of the Qualifying Exam prior to beginning Year G1 courses will be required to take the Fall Foundations course in addition to the required second-year BCDB courses.

Requests for exceptions to these course requirements must be submitted in writing to the Program Director and DGS of the BCDB Program and will be evaluated on a case by case basis.

### **C. Timing of Qualifying Exams**

MSTP students may choose to take Part I of the Qualifying Examination immediately following M2 Spring classes. Failure of Part I of the exam at this stage will be without prejudice to both the student's standing in graduate studies and their eligibility to take Part I at the end of the G1 year. Alternatively, MSTP students may opt to take Part I of the exam at the end of the G1 year. In either case, passing Part I of the Qualifying Exam is subject to the same criteria and regulations as PhD-only students. The deadline for completion of Part II of the Qualifying Exam is June 1, approximately one year after completion of the Part I exam, although scheduling the exam earlier is encouraged.

### **D. Teaching Requirement**

The teaching requirement of the Graduate School is to be fulfilled by the end of the MSTP student's G1 year. Exceptions to meet the teaching requirement beyond the G1 year will be granted on a case-by-case basis.



## E. Length of Time to Degree

MSTP guidelines encourage the completion of the PhD portion of the degree in three years. While every effort will be made to meet this guideline, it should be recognized that the student is expected to complete a dissertation based upon original research, and that this dissertation must meet both MSTP and BCDB standards. Expectations regarding authorship on publications or other standards for the PhD degree must meet or exceed those set by both programs. Consequently, it may be necessary to extend the degree program beyond the three-year guideline.

## PART VII: APPEALS AND GRIEVANCE POLICY

### Appeals

If a student in a GDBBS graduate program believes that either a grade or a grade leading to recommendation to dismiss the student was impacted by extenuating circumstances that adversely affected his/her performance, he/she may appeal the grade or the dismissal to the Division Director, and request a reconsideration of the grade or the dismissal. The appeal should clearly outline the extenuating circumstances and must be submitted within one month of grades being recorded by the Office of the Registrar, or the letter recommending dismissal being received by the student. The graduate program will be asked to respond to the appeal, and will follow the grade appeals process outlined in the handbook of student's graduate program. The student will be notified of the decision by the Program Director of the graduate program and the GDBBS Director.

If the Program vote was unanimous, and the student believes the appeal is not resolved, the appeal will be relayed directly to the Laney Graduate School, bypassing review by the GDBBS Executive Committee.

If the graduate program vote on the appeal was not unanimous, and the student believes the appeal is not resolved, the student can appeal to the GDBBS Executive Committee. The same document that was presented to the graduate program for their review of the appeal should be sent to the GDBBS Director. Appeals will be reviewed by the GDBBS Executive Committee which consists of the Program Directors of the eight graduate programs and the GDBBS Director, minus the Program Director of the graduate program(s) directly involved in the appeal. The GDBBS Director will provide the appeal materials to help ensure consistency across the Division, but will not vote except in the need of a tie-breaker. The Program Directors and GDBBS Director will review the material and meet face-to-face to discuss. A majority of the Program Directors must be present at the meeting, and only those who are present can vote. Votes will be taken via SurveyMonkey to ensure confidentiality. If the appeal is denied the GDBBS Director will immediately notify the LGS. If the appeal is accepted the GDBBS Director will notify the student and the Program Director and DGS of the graduate program.

### Grievance Policy

Students who have a grievance related to some aspect of their PhD program should submit a detailed letter describing the grievance and the relevant details to the appropriate person, as detailed below. The process starts at the graduate program level, unless the grievance involves the Program Director or DGS of that program:

<u>Level</u>	<u>Focus of Grievance</u>	<u>Process Starts With</u>
1	Within the student's Program	Director or DGS, as appropriate
2	Program Director or DGS	Director of the GDBBS
3	GDBBS or GDBBS Director	LGS Senior Associate Dean

Grievances submitted to the Program (level 1 above) will be handled according to that Program's grievance policy. If the grievance cannot be resolved at the Program level, the student may file a grievance addressed to

the Senior Associate Dean of the Laney Graduate School, who will follow LGS Grievance Procedure (<http://gs.emory.edu/handbook/honor-conduct-grievance/grievance.html>).

If the grievance is submitted to the Director of the GDBBS because it involves the Program Director or DGS of a program (level 2 above), he/she will review the grievance documentation and will try to resolve the grievance in conversation with the student and relevant parties. If this is not successful, the GDBBS Director will ask a committee consisting of the eight Program Directors and the GDBBS Director, minus the Program that is directly involved in the grievance, to review the grievance and propose an appropriate response. The GDBBS Director will provide the grievance materials to help ensure consistency across the Division, but will not vote except in the need of a tie-breaker. All grievance discussions will take place in a formal face-to-face meeting scheduled typically within one week of the grievance being filed. A majority of the Program Directors must be present at the meeting, and only those who are present can vote. Votes will be taken via SurveyMonkey to ensure confidentiality.

If the grievance cannot be resolved at the Division level, the GDBBS Director will refer the matter to the Senior Associate Dean of the Laney Graduate School, who will refer the matter to the LGS Committee on Grievances, which is composed of three graduate faculty members. The Director of the GDBBS and the Director of the Program where the student resides will meet with the Senior Associate Dean of the LGS to discuss the outcome and recommendations related to the grievance.