

# BIOSTATISTICS PHD PROGRAM

Student Handbook  
2022-2023

The James T. Laney Graduate School  
Emory University

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EMORY

ROLLINS  
SCHOOL OF  
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HEALTH

Department of  
Biostatistics



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## 1. INTRODUCTION

Biostatistics is the science that applies statistical theory and methods to the solution of problems in the biological and health sciences. A few examples of research questions which biostatistics can help answer are: What mathematical models can describe transmission and infection probabilities of infectious diseases such as AIDS and influenza? What are the risk factors associated with breast cancer? What preventive steps can people take to reduce the risk of heart disease? How many IV drug users have contracted AIDS in Georgia?

The main areas of effort for biostatisticians include collaborative research and consulting, methodological research, and education. In collaborative research, biostatisticians work on research studies with experts in the biological and health sciences. The biostatisticians' responsibilities include analysis of data and interpretation of results. Equally important, however, is the responsibility to assist in the planning and conduct of the study to ensure consistency with good statistical practice. Methodological research, such as developing mathematical models to describe biological phenomena, is conducted to enhance the existing bodies of knowledge in theoretical and applied biostatistics. Biostatisticians educate others about biostatistics through the teaching of graduate and continuing education courses, seminars, collaborative research and consulting activities.

Students entering graduate programs in biostatistics come from a variety of undergraduate fields. Many have undergraduate degrees in mathematics, applied mathematics or statistics. Others may have majored in the biological or social sciences. While specific requirements vary depending on the particular degree sought by a student, all students are expected to have a strong undergraduate background in mathematics or statistics, and a strong desire to study the theory and application of statistical methods in the biological and health sciences.

Upon enrolling in a biostatistics program, students take courses in statistical methods and theory. The methods courses focus on ways to select and apply statistical techniques that are appropriate for different types of problems. The theory courses provide rigorous instruction in the formal mathematical structure underlying the statistical techniques. Heavy use is any biostatistics courses, and certainly in elective courses focused on bioinformatic techniques. The latter generally involve applying statistical and computational principles to handle modern health- or biology-related datasets containing information on a large number of variables.

Employment prospects for PhD level biostatisticians has been excellent in recent years. Positions as researchers and data analysts are commonly available in industry (e.g., pharmaceutical, consulting), academia (e.g., schools of public health and schools of medicine) and government agencies (e.g., the Centers for Disease Control and Prevention, local or state health departments). The monthly news magazine of the American Statistical Association (ASA), *Amstat News*, contains nationwide listings of career opportunities for biostatisticians. For more information about careers in biostatistics, visit the [ASA website](#).

## 2. FACULTY

**David Benkeser**, Assistant Professor. BS, University of Georgia, 2010; MPH, University of Georgia, 2010; PhD, University of Washington, 2015. Causal inference, infectious disease.

**Jose Binongo**, Research Associate Professor. PhD, University of Ulster (UK), 2000. Collaborative biostatistics, statistics education.

**Donna J. Brogan**, Emerita Professor. BA, Gettysburg College, 1960; MS, Purdue University, 1962; PhD, Iowa State University, 1967. Sample survey design and analysis, breast cancer epidemiology, women's health.

**Howard Chang**, Professor. BS, University of British Columbia, 2004; PhD, Johns Hopkins University, 2009. Environmental epidemiology, Bayesian methods, spatial and spatial-temporal statistics.

**George Cotsonis**, Senior Associate. MA, University of West Florida, 1978. Statistical computing, consulting.

**Xiangqin Cui**, Research Associate Professor. BA, Nankai University, 1991; MS, Nankai University, 1994; PhD, Iowa State University, 2001. Veteran Affairs.

**Natalie Dean**, Assistant Professor. BA, Boston University, 2009; AM, Harvard University, 2011; PhD, Harvard University, 2014. Public health surveillance, infectious disease epidemiology, emerging pathogens, vaccine evaluation, clinical trials design, test negative designs.

**Kirk A. Easley**, Senior Associate. Associate Director, Biostatistical Consulting Center. MS, Louisiana State University, 1981. Statistical consulting.

**Lisa K. Elon**, Senior Associate. BS, Virginia Tech, 1978; MS, North Carolina State University, 1983; MPH, Emory University, 1997. Sample survey analysis, longitudinal cohort study.

**Ying Guo**, Professor. BS, Renmin University, 1998; MS, 2001; PhD, Emory University, 2004. Multivariate survival data with focus on developing new statistical methods to characterize and model agreement among survival times, statistical imaging.

**Michael J. Haber**, Professor. BSc, Hebrew University (Jerusalem), 1965; MSc, 1968; PhD, 1976. Categorical data analysis, statistical methods for infectious diseases data, evaluation of vaccine effects.

**John J. Hanfelt**, Professor. AB, Harvard University, 1984; MS, George Washington University, 1988; PhD, Johns Hopkins University, 1994. Longitudinal data analysis, genetic epidemiology, estimating functions, approximate likelihood.

**Yijuan Hu**, Rollins Associate Professor. BS, Peking University, 2005; PhD, University of North Carolina at Chapel Hill, 2011. Statistical genetics, missing data, semiparametric inference.

**Yijian (Eugene) Huang**, Professor. BS, Zhejiang University, 1990; MS, University of Minnesota, 1994; PhD, 1997. Survival analysis, covariate measurement error, semi and nonparametric inferences.

**Mary Kelley**, Research Professor. BS, University of Pittsburgh, 1988; MS, 1995; PhD, 2004. Mental illness research, health outcomes research, schizophrenia research.

**Yi-An Ko**, Research Assistant Professor. BS, National Taiwan University, 2004; MS, University of Southern California, 2007; MS, University of Michigan, 2009; PhD, 2014. Statistical Modeling, Cardiovascular Diseases, Biomarkers, Genetic Epidemiology.

**Robert Krafty**, Professor and Chair. BS, SUNY at Stony Brook, 2000; MA, University of Pennsylvania, 2002; PhD, University of Pennsylvania, 2007. Times series, Signal Analysis,

Multilevel Data, Longitudinal Data, Bayesian Statistical Learning, Functional Data, High-Dimensional Data Analysis, Applications in Behavioral Health, Mobile Health, Sleep and Neuroscience.

**Michael H. Kutner**, Professor. BS, Central Connecticut State College, 1960; MS, Virginia Polytechnic Institute and State University, 1962; PhD, Texas A&M University, 1971. Linear models, variance components, experimental design, clinical trials.

**Siu Yin (Max) Lau**, Assistant Professor. BS, University of Hong Kong, 2009; MPhil, University of Hong Kong, 2011; PhD, Heriot-Watt University, 2015. Bayesian Models, Model Assessment, Genetic Data.

**Traci Leong**, Research Assistant Professor. BS, University of California Davis, 1990; MS, Stanford University, 1991; MS, Emory University, 2004; PhD, 2005. Statistical methods for clinical trials, statistical consulting, pediatric research.

**Yuan Liu**, Research Assistant Professor. MS, University of North Carolina, 2004; PhD, 2008. Cancer, Observational Studies.

**Robert H. Lyles**, Professor. BS, Vanderbilt University, 1988; MS, University of North Carolina-Chapel Hill, 1991; PhD, 1996. Longitudinal data analysis, prediction of random effects, measurement error models, missing data.

**Amita K. Manatunga**, Donna J. Brogan Professor of Biostatistics BSc, University of Colombo, 1978; MSc, Purdue University, 1984; PhD, University of Rochester, 1990. Multivariate survival analysis, frailty models, longitudinal data.

**Rameshbabu Manyam**, Research Assistant Professor. BTech, National Institute of Technology, Warangal, India, 1991; MTech, Indian Institute of Technology (Banaras Hindu University), Varanasi, India, 1993; MS, Georgia State University, 2002; PhD, Georgia State University, 2019. Cardiovascular Diseases, data mining, data science, machine learning.

**Raphael Murden**, Research Assistant Professor. BA, Morehouse College, 2008; MA, Washington University, 2011; PhD, Emory University, 2021. Multimodal data integration methods, functional data analysis, health disparities, HIV.

**Razieh Nabi**, Assistant Professor. BSc, Sharif University of Technology, 2012; MSc, Istanbul Sehir University, 2015; MSc, University of Texas-El Paso, 2016, PhD, Johns Hopkins University, 2021. Causal Inference, semiparametric statistics, missing data, graphical models, algorithmic fairness, machine learning.

**Azhar Nizam**, Senior Associate. BA, Grinnell College, 1985; MS, University of South Carolina, 1987. Multiple comparisons, statistical education.

**Limin Peng**, Professor. BS, University of Science and Technology of China, 1997; MS, 2000; PhD, University of Wisconsin, 2005. Survival analysis, empirical processes, causal inference, Bayesian statistics, bioinformatics.

**Zhaohui S. Qin**, Professor. BS, Peking University, 1994; PhD, University of Michigan, 2000. High-throughput genomics analysis.

**Benjamin Risk**, Assistant Professor. BA, Dartmouth College, 2003; MS, University of California, Berkeley, 2009; MS, Cornell University, 2014; PhD, Cornell University, 2015. Neuroimaging statistics, spatio-temporal processes, multivariate statistics, environmental statistics.

**Jeffery Switchenko**, Research Assistant Professor. BA, Bowdoin College-Brunswick, 2006, PhD, Emory University, 2012. Cancer, spatial analysis, Bayesian.

**Lance A. Waller**, Professor. BS, New Mexico State University, 1986; MS, Cornell University, 1990; PhD, 1992. Spatial statistics, environmental epidemiology, geographic information systems, Bayesian methods.

**Laura Ward**, Associate. BSPH, University of North Carolina, Chapel Hill, 2007; MSPH, Emory University, 2009. Collaborative biostatistics, study design, data management.

**Paul S. Weiss**, Senior Associate. BS, University of Michigan, 1993; MS, 1996. Survey sampling design, research methodologies, statistical computing.

**Hao Wu**, Associate Professor. BS, Tsinghua University, 1996; MS, Iowa State University, 2000; MPH/PhD, Johns Hopkins University, 2010. Quantitative genetics and genomics analysis.

**Rebecca Zhang**, Senior Associate. BS, Fudan University, 1985; MS, Florida State University, 1990. Data management, statistical analysis.

### Jointly Appointed Faculty

**Karen Conneely**, Associate Professor. BS University of Illinois, 1994; MA, Princeton University, 1997; PhD, University of Michigan, 2008.

**Michael P. Epstein**, Professor. BS, Duke University, 1996; MS, University of Michigan, 1998; PhD, 2002.

**Vicki Stover Hertzberg**, Professor. BS, Miami University, 1976; PhD, University of Washington, 1980. Categorical data analysis, clinical trials, reproductive epidemiology, statistical genetics.

**Donald Lee**, Associate Professor. BA. MA, Cambridge University, 2001; MS, Stanford University, 2008.

**Christina Mehta**, Research Assistant Professor. BS, Emory University, 2000; MSPH, 2004, PhD, 2014. Women's interagency HIVE study, biostatistics.

**Jingjing Yang**, Assistant Professor. PhD, Rice University, 2014. Bayesian Analysis, genetic association studies, genetic epidemiol

**Christina Mehta**, Research Assistant Professor. BS, Emory University, 2000; MSPH, 2004, PhD, 2014. Women's interagency HIVE study, biostatistics

### Adjunct Faculty

**Zhengjia Nelson Chen**, Adjunct Professor. BS, Peking University, 1995; MS, 1998; MS, University of Southern California, 2001; PhD, 2008. Cancer research, clinical trials.

**Johnathan Alexander Edwards**, Adjunct Instructor. BA, Emory University, 2015; MSPH, Emory University, 2017. Computer Science, biostatistics, software engineering, knowledge management, electronic medical records, public health surveillance.

**Andrew N. Hill**, Adjunct Lecturer. BS, University of Auckland (New Zealand), 1986; MS, 1987; PhD, University of Canterbury (New Zealand). US Centers for Disease Control and Prevention.

**David Williamson**, Adjunct Associate Professor. BS, Georgia Institute of Technology, 1973; MS, Georgia Southern College, 1978; MS, Virginia Polytechnic Institute and State University, 1980; PhD, Emory University, 1987. Agency for Toxic Substances and Disease Registry.

**John Williamson**, Adjunct Associate Professor. BS, Rensselaer Polytechnic Institute, 1986; MS, University of North Carolina-Chapel Hill, 1989; ScD, Harvard University, 1993.

**Tianwei Yu**, Adjunct Professor. BS, Tsinghua University, 1997; MS, 2000; MS, University of California, 2004; PhD, 2005. Expression array/SNP array analysis

### 3. PROGRAM OVERVIEW

The PhD program in biostatistics is designed for individuals with strong quantitative skills and background or interest in the biological, medical, or health sciences. To the extent possible, the curriculum of each student is tailored to his or her background and interests. Students can enter the PhD program with a bachelor's or a master's degree. PhD students may obtain an Interim MS degree by satisfying specific conditions during their studies.

The Biostatistics Doctoral Program is administered through the Laney Graduate School (LGS) and managed by the Department of Biostatistics and Bioinformatics in the Rollins School of Public Health (RSPH). The Biostatistics Doctoral Program follows the rules and procedures set forth by the LGS. Information in this handbook is an addition to the LGS Policies and Procedures (<http://www.gs.emory.edu/academics/policies/index.html>) and the LGS Graduate Student Handbook (<http://gs.emory.edu/handbook/>

#### Department of Biostatistics and Bioinformatics

The Department's mission is to establish the Rollins School of Public Health Department of Biostatistics and Bioinformatics as a recognized leader of biostatistical science in the United States. This includes pursuing excellence in the four core responsibility areas:

#### 3.1 Program Core Areas

**Education:** Educate others about biostatistics and bioinformatics through mentoring of and teaching graduate students, inter-disciplinary courses, continuing education courses, and seminars.

**Methodological Research:** Conduct methodological research to enhance the existing bodies of knowledge in theoretical and applied statistics and bioinformatics.

**Collaborative Research:** Conduct collaborative research studies that use biostatistical methods with experts in the biological and health sciences in which the statistician makes substantial contributions, from assistance in the planning and conduct of the study to analysis of data and interpretation of results.

**Service:** Provide statistical support for research projects outside the department that are limited in time, nature, and scope. Participate on local and national committees or other "citizenship" responsibilities.



### 3.2 Core Competencies

Upon completion of the program, PhD students should be able to:

1. Conduct independent research in the application of biostatistics.
2. Develop and assess new statistical theory as needed.
3. Develop and assess new statistical methods to address a broad range of complex biomedical or public health problems.
4. Conduct complex statistical analyses for a broad range of applications.
5. Teach statistical theory or methodology at multiple levels.

### 3.3 Advisors and Advising

The Director of Graduate Studies (DGS) and Program Administrator (PA also known as the ADAP) assist with general program advisement and communication of LGS policies for all students in the program. The DGS and PA appoint a departmental faculty member to serve as the formal academic advisor for all incoming students, until the students identify a Dissertation Advisor to oversee their dissertation research. The DGS, academic advisor, and Dissertation Advisor serve as resources for progress through the program, including course selection and dissertation topic development.

## 4. PROGRAM REQUIREMENTS

Students must successfully complete the following doctoral program requirements:

1. Curriculum
2. English as a Second Language Requirements (international students)
3. Public Health Foundations
4. Teaching Assistant Training and Teaching Opportunity Program ([TATTO](#))
5. Ethical Training – [Jones Program of Ethics](#)
6. Qualifying Exams
7. Admission to Candidacy
8. Dissertation
  - a. Dissertation Committee
  - b. Dissertation Proposal
  - c. Dissertation Oral Defense

### 4.1 Curriculum

To satisfy curriculum requirements, students must complete the Laney Graduate School credit hour requirements and the Biostatistics PhD Program coursework requirements.

#### 4.1.1 Biostatistics Coursework

The curriculum consists of required courses and a varying number of electives. Required courses provide students with comprehension and expertise in the BIOS competencies. Elective courses provide students with additional expertise within a given area of study as it relates to Biostatistics.

The appropriate class schedule is determined on a case-by-case basis through a review and discussion of the student's academic record, academic interests, and previous experience in the biological and health sciences. All PhD students must complete 54 credit hours to be eligible for candidacy. Please see a full overview of program requirements and expected completion timeline provided in the Appendices.

#### 4.1.2 BIOS Core Courses

Required courses provide students with the foundation and expertise including a foundation that students entering with a MPH/MSPH may have upon entering the program.

Course No	Title	Credits
BIOS 508	Biostatistical Methods	2
BIOS 509	Applied Linear Models	4
BIOS 512	Probability Theory I	4
BIOS 513	Statistical Inference I	4
BIOS 522	Survival Analysis Methods	2
PUBH 700R *	Public Health Foundations	0
BIOS/PUBH 701R*	Public Health Research: Discovery to Practice	1
BIOS 709	Generalized Linear Models	4
BIOS 710	Probability Theory II	4
BIOS 711	Statistical Inference II	4
BIOS 745R	Biostatistical Consulting	1
BIOS 777	How to Teach Biostatistics	1
BIOS 780R	Research Methods in Biostatistics	1
BIOS 795R	Pre-Candidacy Research	VC
BIOS 799R	Dissertation Research	VC
	<i>VC: varying credit</i>	
<b>Elective Requirements</b>		
BIOS Electives		12
Non-BIOS Electives		6
<b>Total</b>		<b>54</b>

**Electives:** All students are required to complete 12 credits of elective courses in biostatistics; at least 6 of these credits must be in 700-level courses.

Enrollment in BIOS 790R, the invited speaker's seminar series, is a required BIOS elective for the first two years of coursework in which only 2 credit hours will count toward *BIOS elective hours at the 700 level*.

Students are required to complete 6 credits of elective courses (at the 500-level or above) outside of biostatistics; at least 2 of these credit hours must be in epidemiology for students who lack prior training in epidemiology. Students must maintain an average GPA of at least B- to remain in good academic standing.

**Course Waivers:** Students entering the program having earned a MPH/MSPH from Emory University may request a waiver if a course was taken during the program and did not count towards meeting degree requirements. Course waivers are determined on a *case-by-case basis* upon consultation with the DGS and the Laney Graduate School when the student first enters the program. Please note taking 700 level elective courses are not transferable.

#### **4.1.3 English as a Second Language Requirements (ELSP)**

##### **For Non-native English-speaking Students Only**

International students and individuals for whom English is not their primary language must participate in mandatory English assessment of written and oral skills upon entry to the program. Students who do not meet the minimum assessment requirements must participate in oral and written English communication classes directed by the [English Language Support Program \(ELSP\)](#) within the Laney Graduate School. The ELSP curriculum focuses on speaking/communication and writing.

Required for continuation in the Laney Graduate School, these courses vary in 2 – 4 credit hours receiving a grade of S/U. Courses will appear on official transcripts but do not count towards the required 54 credits for the PhD.

#### **4.1.4 Public Health Foundations – PUBH 700**

PUBH 700 Public Health Foundations is only required for doctoral students without a MPH/MSPH degree. It provides a broad introduction to public health. This course is graded Satisfactory/Unsatisfactory and must be taken during the first Fall of the program.

## 4.2 LGS Curriculum Requirements

### 4.2.1 LGS Credit Hour Requirements

The expectation for doctoral students is that they make full-time progress towards their final degree each semester. Full-time is represented by being enrolled in a minimum of **9 credit hours per semester and summer term**. At different stages, full-time status may correspond to different types of activities. Early in the program, full-time status is represented by enrollment in course work. As students' progress through the program, full-time status is increasingly represented by time is spent on research training: pre-candidacy research or dissertation research. To satisfy credit hour requirements, students register for research credits reflecting the specific training being pursued: **BIOS 795R** (pre-candidacy research) or **BIOS 799R** (dissertation research).

### 4.2.2 Training in Ethics and [the Jones Program in Ethics](#)

All doctoral students within the LGS are required to receive training in ethics through [the Jones Program in Ethics](#) as well as program-based courses.

JPE 600: Students enroll in JPE 600 upon entering the program preceding the beginning of fall semester. The course introduces the concepts of scholarly integrity.

JPE 610: Students are required to complete four additional workshops or seminars prior to completing the program. Sessions are coordinated by the LGS, the Emory Center for Ethics and other campus partners committed to ethical training. Sessions are coordinated throughout the academic year. Students are strongly encouraged to complete the JPE 610 requirement before the dissertation proposal. They are also encouraged to continue to engage in JPE sessions exploring various topics in scholarly integrity and ethics in research, and to incorporate these topics in areas relevant beyond the research.

Program based training is further incorporated into the curriculum through BIOS 777, How to Teach Biostatistics and BIOS 745R Biostatistics Consulting.

### 4.2.3 Teaching Assistant Training and Teaching Opportunities Program ([TATTO](#))

All PhD students in the Biostatistics Program must participate in the Teaching Assistant Training and Teaching Opportunities (TATTO) program. Students participate in this program during their second and third year of study. The goal is to prepare students for teaching through a two-day course (TATTO

600), a teaching assistantship (TATTO 605), and a teaching associateship (TATTO 610). The requirements for completion of the TATTO program are:

1. TATTO 600 Teaching Assistant Training Course
2. TATTO 605 Teaching Assistant and BIOS 610 Teaching Associates
3. BIOS Courses

**Teaching Assistant Training Course (TATT 600):** Students will take a two-day summer teacher training workshop in late summer before the second year in the Ph.D. program. Successful completion of this course is required before a student can receive credit for a teaching assistantship or teaching associateship. The syllabus covers syllabus writing, grading, lecturing, facilitating discussions, the use of writing as a pedagogical tool, the conduct of lab sessions, and the use of new technologies. The Program Administrator coordinates teaching assignments notifying students in June/July for the Fall semester assignments and November for the Spring semester assignments.

**Teaching Assistant (TATT 605) and Teaching Associates (TATT 610):** Ph.D. students are required to be a Teaching Assistant (TATT 605) during their second year and a Teaching Associates (TATT 610) during the third year. This can range from assisting faculty in the teaching of basic biostatistical courses and/or labs to teaching a course. Responsibilities may include developing and grading homework, holding problem and review sessions, and providing individual help to students through office hours.

Students register for TATT 605BIOS or TATT 610BIOS during the semester that they complete each requirement. TATTO roles should take place over the course of a full semester (15 weeks). During Year 2, students are enrolled in TATT 605BIOS for two semesters and during Year 3, TATT 610BIOS for two semesters. 2 credit hour for BIOSTAT 605 during the fall semester of Year 2 will count towards the 54 credit hours needed for candidacy. Students should expect to spend an average of 10 hours per week on TA duties.

Students must complete and submit the **Teaching Assistant Assessment Form** 5 days prior to pre-registration each semester submitting a copy to the Program Administrator. At the beginning of each semester, this form is used to assist students to set goals for their TA duties with their TATTO course instructor and to provide students with a formal means of communicating these goals to their instructor and the DGS. At the end of the semester, revisit this form in consultation with the instructor to review outcomes and completion of the form provides a basis for the Satisfactory / Unsatisfactory (S/U) grade for the TATT course for which they were registered. TATT 600, TATT 605BIOS and TATT 610BIOS are degree requirements and will appear on the transcript.

**BIOS Training Courses:** The Biostatistics Program requires additional training through BIOS 777 (How to Teach ) and BIOS 745R (Biostatistics Consulting) to broaden students' training in related to teaching and instruction.

BIOS 777 introduces the student to basic concepts and ideas related to teaching an introductory-level biostatistics course, and gives him/her an opportunity to hear from experienced instructors about teaching at multiple levels. It is taken during the second year of the program.

BIOS 745R is considered the final step in TATTO training. The final required step of the TATTO program in biostatistics is satisfied through studying and participating in consulting activities. Consulting is a major part of the work of almost every biostatistician. Statistical consulting is viewed as an activity that involves teaching biostatistical concepts and methods to professionals from other biomedical and health-related fields.

In order to satisfy the consulting requirements, the student will enroll in the biostatistical consulting course (BIOS 745R) taught by faculty of the Biostatistics Collaboration Core (BCC). The first portion of this course is dedicated to preparing students to act as consultants through discussion of consulting models, interpersonal communications, ethics, types of clients, financial management and related issues. Students are then required to participate in the consulting process, i.e., to meet with researchers to discuss the design and analyses of studies that require biostatistical work. These meetings will be supervised by the course instructor. Students will discuss their consulting experience during class meetings, and will prepare final reports at the conclusion of the course.

**Assistant Instructor:** A student who has successfully completed the four mandatory steps of the TATTO program, and is no longer supported by the Laney Graduate School or by outside sources, is eligible for appointment as Assistant Instructor. An Assistant Instructor is responsible for developing and teaching a whole course, and she/he may apply for and be awarded a Dean's Teaching Fellowship by the Laney Graduate School.

**Deans Teaching Fellows:** LGS provides teaching opportunities for students who have demonstrated exceptional teaching ability and have completed all academic requirements except for the dissertation. Please visit the LGS website for more information: <http://www.gs.emory.edu/uploads/professional-development/fellowships/DTF.pdf>.

Teaching Assistantships outside of Biostatistics and beyond TATTO requirements are considered to be additional employment. Ensure to communicate with the DGS, PROGRAM ADMINISTRATOR and faculty or dissertation advisor prior to accepting such positions. For more details about TATTO requirements, serving as a TA, and working outside/above and beyond TATTO requirements, see the LGS handbook: <http://gs.emory.edu/handbook/> and LGS TATTO guidelines: <http://www.gs.emory.edu/professional-development/teaching/>.

#### 4. 3 Annual Progress Report and Individual Development Plan

Biostatistics is committed to providing students every opportunity to be successful in reaching their academic goals. The purpose of the Annual Progress Report and Individual Development Plan is a guide to outline academic milestones and long-term and short-term objectives. Both serve as tools to assist

in monitoring progress, including timeline to degree completion, for the duration of the student's program. The report is **completed with the faculty or dissertation advisor(s)** to provide regular attention to goals and competencies as proactive steps towards academic achievement and career interest.

## 5. Qualifying Examinations

The written qualifying examination determines the student's qualifications for advanced study and verifies adequate mastery of concepts in biostatistics. Students who take BIOS 512 and 513 must take the Year 1 Theory exam in the summer following enrollment in these courses. All students must take the Year 2 Methods Qualifying exams in the summer following enrollment in BIOS 522 and 709. They must also take the Year 2 Theory Qualifying exam in the summer following enrollment in BIOS 707, 710 and 711.

### 5.1 Exam Coordination

The qualifying examinations are given annually during June to assure adequate preparation, grading, and notification time before the students return the following Fall. The Year 1 and Year 2 Theory exams are given in a one-day single sitting classroom setting. The Year 2 Methods exam extends over a period of one week as a take home exam. Students are bound by the honor code to refrain from discussing the examination with anyone, other than the Qualifying Exam Committee Chair, during the testing period.

### 5.2. The Qualifying Examination Committee

The Qualifying Exam Committee manages all aspects of the examination process. Members select the questions, select the date, time and location of the exams, and assist in administering the exams. Each exam question is reviewed and graded in a blinded manner by two faculty members. The results of the exams are reviewed by the graduate faculty in the Program, and a written letter with exam results is sent to each student by the Department Chair.

### 5.3 Assessment of Student Performance

The first component of assessing a student's performance is the outcome of the learning goals stated below:

1. By the completion of the Program, graduates will be able to formulate or pose a research question or scholarly project
2. By the completion of the Program, graduates will be able to conduct independent research using methods appropriate to the field or discipline

3. By the completion of the Program, graduates will be able to communicate the results, findings or new interpretations of their scholarly work.
4. By the completion of the Program, graduates will be able to communicate discipline-specific knowledge to students
5. By the completion of the Program, graduates will be able to critically evaluate scholarly work and/or research conducted by peers.

The qualifying examination is the second component of the determination of student readiness to continue in the program. The possible outcomes of the exam are a pass, a pass with conditions, and a failure. A pass means that the student has successfully passed the exam and may now continue the process to attain candidacy. A conditional pass indicates that there are one or more areas of weakness that require additional work to be reviewed by the Examination Committee. A student receiving a failing grade may retake the examination the following year.

A student who fails a qualifying exam the first time is permitted to re-take the exam one time, and must do so the next time that exam is offered (i.e., typically, the following summer). In the event that the Year 1 Theory exam must be re-taken, students will often be advised to delay taking the 710 / 711 theory course sequence for one year until they pass the exam. If a student elects to take the 710 / 711 theory sequence for credit, prior to passing the Year 1 Theory exam, he/she is required to take both Theory exams (Year 1 and Year 2) during the following summer. Continuation in the PhD program is contingent upon passing each of the three qualifying exams (Year 1 Theory, Year 2 Theory, and Year 2 Methods, and Year 1 Theory if required) on the first or second attempt.

The third component of the assessment is a broad critique of student performance in the coursework to date in the Program. Individual performance in coursework is a criterion toward the determination and assurance of satisfactory academic progress.

## 6. Candidacy

Students are required to be in candidacy by September 15 at the beginning of their fourth year. To be eligible for candidacy, a student must meet the following requirements:

1. Complete all program requirements for candidacy: coursework and training courses
2. Pass qualifying examinations
3. Complete TATTO 600, TATTO 605, and JPE 600
4. Resolve any Incomplete (I) or In Progress (IP) grades
5. Be in good academic standing with a minimum cumulative 2.70 GPA
6. Have earned at least 54 credit hours at the 500 level or above as required

TATTO 610 and JPE 610 may be completed after entering candidacy.



## **6.1 Procedure**

Students enter candidacy by submitting the application to enter candidacy, available on the LGS website. A successful applicant confirms that all Program requirements have been met. Students should submit a copy of the candidacy form to the Program Administrator at time of submitting the online application. Students should submit a copy of the candidacy form to the Program Administrator at time of submitting the application.

Students are considered “in candidacy” when the Dean has approved the application to enter candidacy.

## **7. Dissertation**

Each student has to conduct an original research project which must be summarized in a written dissertation. As a key milestone along the way, the student will have to present his/her dissertation proposal orally in order to obtain the approval of the dissertation committee to conduct the research.

### **7.1 Dissertation Committee**

As the student begins to define a dissertation topic, the student should identify a dissertation advisor. Once identified, the student will submit the BIOS Dissertation Student/Advisor Agreement Form. Both the student and his/her dissertation advisor are required to sign the form indicating the proposed area of research. The form must be submitted at least 3 months prior to submission of the written dissertation proposal or by April 30<sup>th</sup> of Year 3, whichever occurs first.

Under the guidance of the dissertation advisor, a Dissertation Committee will be identified. The Committee should consist of the student’s Dissertation Advisor and three other qualified members in the topic area. It is required that at least one member of the Committee be from outside the Biostatistics PhD Program. At least three members of the Committee must be graduate faculty in the Biostatistics PhD Program. The Laney Graduate School’s policy also dictates that Committee members who are not LGS graduate faculty receive the LGS Dean’s approval to serve. This requires a brief letter from the DGS requesting approval, along with a copy of the proposed Committee member’s CV. The Dissertation Committee will meet with the student to assist him/her in defining the specific focus and refinement of the dissertation topic. The Committee will also assist in determining when the student’s research is complete enough to present the proposed topic. After the dissertation proposal is approved, the student is not allowed to change the members of his/her dissertation committee without the approval of the Director of Graduate Studies and the Dean of the Laney Graduate School. The [LGS Dissertation Committee Signature Form](#) must be completed by March 15<sup>th</sup> of Year 4.

The advisor shall grade the student on an S/U basis each semester for BIOS 795R and BIOS 799R. Either the advisor or the advisee may terminate this agreement at any time if it is determined that positive progress is not being made on the project. The Director of Graduate Studies shall be advised of this

determination in writing. Please return a copy of the signed form to your Doctoral Program ADAP in Room 314.

## **7.2 Dissertation Proposal**

Student must present a dissertation proposal by March 15<sup>th</sup> of Year 4. To prepare for this phase of research, complete the following steps for the Dissertation Proposal:

1. Identify a dissertation advisor and committee before the end of the third year in the program.
2. Work with their committee to identify an area of dissertation research.
3. Prepare a brief but thorough written review of the relevant literature and proposal for dissertation research. This written review should clearly identify how the proposed research expands or extends the theory and methods described in the literature review, and should outline the goals of the dissertation in a series of detailed specific aims. Students are encouraged to include preliminary results indicative of the detailed developments to be summarized in their oral proposal presentation in this written review, although this is not a requirement.
4. Once approved by the dissertation committee, the student will orally present a proposal consisting of a thorough overview of the current literature, the specific aims of the proposed dissertation, and a detailed development of proposed work on at least two of the specific aims. This presentation is open to the committee, the graduate faculty, current students and any other individuals the student requests.
5. A closed oral exam conducted by the committee and members of the graduate faculty will immediately follow the proposal presentation.
6. By March 15<sup>th</sup> of the fourth year, the student must present his/her dissertation proposal and submit the Dissertation Committee Form to LGS for approval. If a student does not meet the March 15<sup>th</sup> deadline, the student will be placed on academic probation, will not be eligible for PDS funds, and may forfeit financial support.

In the event of a change of advisor and topic, students must address steps 3-5 with the new committee and submit a Change of Dissertation Committee form as soon as possible to the Director of Graduate Studies and the Laney Graduate School.

## **7.3 Dissertation Research**

When the dissertation is complete, the student must defend it at a public presentation. The Graduate Faculty determines whether the candidate has successfully defended their topic or if there are additional areas that the student must address before the dissertation is submitted to the Dean of the Laney Graduate School. There are several potential models for structuring the dissertation (e.g., a popular “three-paper” model to encourage preparation of work for publication). Students are not

bound to a particular model, but are encouraged to discuss the structure of the presentation with their dissertation advisor and required to ensure that it is approved by the committee.

During the dissertation research process, the student will enroll in BIOS 799R up to 9 credits per semester to maintain full-time academic status. The dissertation advisor is responsible for assigning an interim grade of either S ("satisfactory") or U ("unsatisfactory") each semester of BIOS 799R, until the determination of a final S/U grade for the dissertation. If the above efforts do not result in satisfactory progress on the dissertation research, then the dissertation advisor may assign an interim grade of U in BIOS 799R, which would result in academic probation.

### **7.3.1 Student Presentations and Retreat Day**

Each fall semester, students in Year 4 and above who have achieved candidacy convene with faculty, staff and students for an event to share the research and progress of the Program's PhD students. Typically, the event is held the second Friday in September. The event provides students with the opportunity to gain experience presenting research in a supportive environment and helps to prepare them for the dissertation proposal defense, the dissertation final defense, and conference presentations. The event also provides students and faculty the opportunity to learn about the range of research being performed in the Program, to discuss research-in-progress, and to foster collaborations through intellectual and social exchanges. There are opportunities throughout the day for informal conversations between students and faculty.

### **7.4 Dissertation Completion Timeline**

Students are expected to complete their dissertations and apply for their degrees within five to six years.

If a student has not completed the degree at the end of the seventh year, the program may grant a one-year extension. The program must submit notice of this extension to the DGS and Dean, no later than August 1 of the seventh year (before the eighth year). The notice must contain a completion timeline signed by both the student and the dissertation committee chair or co-chairs. Students who enroll for this extension year will be responsible for some tuition.

If a student has not completed the degree at the end of the eighth year, the student may continue work for at most one additional academic year and only with approval from the Dean. To obtain approval, the program must submit a request to the Dean no later than August 1 of the eighth year (before the ninth year). The request must (a) outline the reasons the student has not completed, (b) consider whether the student needs to repeat any part of the qualifications for candidacy or obtain approval of a new dissertation prospectus, and (c) present a detailed completion timeline signed by both the student and the dissertation committee chair or co-chairs. Students who enroll for this extension year will be responsible for some tuition.

## 7.5 Dissertation Document and Oral Defense

The Dissertation is composed of two parts: the written document and the oral dissertation defense.

The Dissertation Committee will indicate to the student when the proposal defense may be scheduled. Students must then submit the **Dissertation Defense Scheduling Form to the Program Administrator**. Submission includes a 1-page abstract summary, together with other items indicated on the form that are needed in order to distribute information to the department. This information must be received at a minimum of three weeks prior to the proposed defense date. Students are encouraged to schedule an appointment with the Program Administrator one semester prior to defending, to review completion information.

If the Dissertation Committee approves the Dissertation as written at the time of the Dissertation Defense, the Dissertation Document and other relevant paperwork may be submitted to the LGS for review. If the Committee requests additional work, the revised Dissertation Document may be submitted to LGS for review after the Committee approves the revisions. Prior to graduation, the Dean of the LGS reviews and approves the dissertation. Students should also refer to the LGS website for dissertation submission deadlines. Refer to <http://www.graduateschool.emory.edu/academics/policies/completion.html> for additional information.

## 8. LGS AND BIOS SPECIFIC POLICIES

For a complete list of LGS policies, see the **LGS Handbook** at <http://gs.emory.edu/handbook/>, which covers LGS policies on [Academic Affairs](#), [Financial Information](#), [Honor, Conduct, and Grievance](#), and other [Selected University Policies](#).

### 8.1 Academic Calendar

Visit the following calendars for important dates:

- **RSPH Enrollment Services:** <https://www.sph.emory.edu/rollins-life/events/important-dates/index.html>
- **Emory University Registrar's Office:** <http://www.registrar.emory.edu/Students/Calendars/index.html>

### 8.2 Registration

Students register for coursework after consultation with the Advisor and the PROGRAM ADMINISTRATOR each semester. Students must provide a completed **BIOS Registration and Advising Form** (*see appendices*) to the Program Administrator during each pre-registration period. Pre-

registration begins in March for the following fall, October for the following spring, and May for the summer. All students should be registered for a minimum of 9 credit hours each semester; it is the student's responsibility to ensure they are correctly registered each semester. Below are select policies from the LGS Handbook (<http://gs.emory.edu/handbook/>); always refer to LGS for the most current policies.

### **8.3 LGS and BIOS Credit Hour Requirements**

To be eligible for candidacy, students must have earned at least 54 credit hours at the 500-level or above. Students must be registered for a minimum of 9 credits each semester to maintain full-time status. During summer term, students *must* register full time (9 hours) for rotation, research credits and/or appropriate course work.

The Program's expectation for doctoral students is that they make full time progress towards their final degree each semester. Students are required to be enrolled in a minimum of 9 credit hours each semester and during the summer term. Full time status may be largely represented by enrollment in course work early in the program. As students' progress through the Program, including the summer term, full time status is increasingly represented by time spent on research training through pre-candidacy research or dissertation research. The Program will strongly encourage enrolling and meeting the course work requirement before enrolling in pre-candidacy research hours.

### **8.4 Drop/Add**

Students may change their course schedule through OPUS during add/drop period. This period usually occurs during the first five days after courses begin in the fall and spring semesters; check the academic calendar for specific dates. The Program Administrator can assist, especially when adding classes outside of Biostatistics; provide your student ID and the class/course number as necessary. Students should provide the Program Administrator with documentation of approval to register for courses outside of the department.

### **8.5 Course Waivers**

Students may petition to waive out of a required course if they can demonstrate they have successfully completed a course with comparable competencies and learning objectives or otherwise can demonstrate sufficient knowledge in the subject matter. If approved, the student will be required to replace those hours with electives. Complete the [RSPH course petition](#), include a copy of the course syllabus and transcript showing the grade earned, and see the Program Administrator for more information.

## **8.6 Registration and Awarding of Degrees**

Students must be registered in the semester in which they receive their degree(s).

### **8.6.1 Application for Degree**

Students must make formal application for a degree to be awarded in a particular semester (spring, summer, or fall). Students pick up application forms in the Laney Graduate School office or online and return them to the Laney Graduate School by the deadline, which is usually within the first month of the semester. Applications for degree received after the deadline are subject to a \$25.00 processing fee. Applications for degree are valid only for the semester in which they are filed. If you apply for the degree and do not complete all requirements, you must apply again and register for the semester in which the degree will be conferred.

Although students may specify how their names appear on their diplomas, the names in the commencement program will appear as they are in the Registrar's data base. If there is a difference in the way a student's name is listed in the Registrar's data base and the name the student wishes to be listed in the program, the student should contact the Registrar.

### **8.6.2 Masters of Science in Biostatistics**

Students are admitted to the Biostatistics program to pursue a doctoral degree. Students are eligible to obtain an interim Master of Science degree after meeting academic requirements along with candidacy while advancing towards the Ph.D. Students filing for the interim Master's must obtain approval from the Biostatistics program, meet all LGS candidacy and program requirements and submit an interim Master's degree clearance form to LGS. Candidacy and the interim Master's requirements are outlined in the LGS Handbook: <http://gs.emory.edu/handbook>. A copy of the request must be filed with the Program Administrator. The interim MS degree cannot be awarded retroactively; thus, interested students must apply for this degree immediately upon reaching eligibility.

### **Terminal Masters**

Under unanticipated and rare circumstances, students may leave the Program prior to completing the requirements related to the PhD, either independently or as a result of a departmental action. Students must formally petition the Biostatistics Doctoral Program to receive a Terminal Master's of Science in Biostatistics. The requirements for a Master's degree include 54 credit hours of graduate level coursework with an average of B or better, passing/attempting the qualifying exam and a thesis. Pending review and approval by the Doctoral Program, if approved, a request must be submitted to the Laney Graduate School (LGS). The requirements are outlined in the Laney Graduate School Handbook: <http://gs.emory.edu/handbook>. After successfully petitioning to pursue a terminal Master's, a student has one semester to complete the program.

### 8.6.3 Degree Clearance Forms (Completion of Requirements Report)

This form certifies that the student has met all requirements for the degree and submitted the necessary documents to the Laney Graduate School. Deadlines for receipt of this form in the Laney Graduate School office are in the academic calendar.

### 8.6.4 Survey of Earned Doctorates Form

A PhD candidate must complete a Survey of Earned Doctorates Form and submit to the Laney Graduate School.

## 8.7 Financial Support and Student Fees

Students registered as full-time students (9 credit hours/semester) who are in good standing making adequate progress, receive the following financial support:

- A **tuition scholarship** from LGS, covering full tuition for three terms per year for three years. Funding will transition to departmental support during the fourth year. Students' tuition scholarship may be renewed for a total of 5 full years of funding.
- A **stipend** in the amount of \$ \$34,317 (as of the 2022-2023 academic year). Stipends are paid in 12 monthly installments on the last business day of each month, starting in September. As long as students are making good academic progress, students' stipend may be renewed for a total of up to 5 years of funding. During Years 1-3, stipends are typically funded by institutional funds from LGS or NIH training grants. During Years 4+, funding for the stipend portion come from a variety of sources, including fellowships awarded to the student, mentor's research grants, training grants, or assistantships. During these years, students are expected to take an active role in helping to secure funding.
- A **health insurance subsidy** from LGS that covers 100% of the cost of Emory's student health insurance.
- 

Towards the end of second year, students will collaborate with their advisor, mentors and DGS to develop a plan for ongoing support. Students are encouraging to proactively seek funding. Students will communicate funding support for Year 4 and above to the Program Administrator by May of Year 3.

Students are responsible for **Student Fees** each semester before they reach 'tuition paid' status; some training grants cover these fees. The fees cover University activity, athletic, computer, mental health, and transcript fees. In years 4+, students are responsible for a reduced fee rate each semester. See current academic year fees in the LGS handbook: <http://gs.emory.edu/handbook/financial-information/tuition.html>

Students on some training grants should be aware that taxes are not withheld and are advised to set aside some funds that will be owed when filing taxes. See a professional tax advisor for further guidance.

## 8.8 External Funding

Students are encouraged to seek external funding for research projects through writing grants to federal or private agencies (e.g., NIH, ORISE, foundations). Students who seek external funding should discuss their plans with their Advisor and the DGS. The DGS should be informed of any grant submission. Students should submit an **Intent to Submit Form** through Emory's Research Administration Services system (<https://redcap.emory.edu/surveys/?s=M7FE4ADH73>) to receive assistance. The DGS should also be informed of any grant submissions. Students who receive external funding are eligible for a stipend supplement. Contact the Program Administrator for details.

Students receiving their own funding must notify the Program Administrator and provide the eNOA (notice of award) as soon as it is received so we can submit it to the Office of Financial Aid to set up your account. Failure to submit the eNOA to us in a timely manner will delay the correct payment to your account.

## 8.9 Supplemental Pay and Outside Employment While Receiving a Stipend

Pursuit of a doctoral degree is considered to be a full-time activity. Students may choose to supplement their stipend by engaging in research or training beyond the Program including serving as a TA or RA for additional income. Students should discuss this option with their faculty advisor including addressing how this will enhance or impact student progress. Students may work a maximum of 10 hours per week outside their regular classwork and research if the DGS and advisor grant permission. Any requests to work more than 10 hours per week (paid or unpaid) must be submitted to and approved by the RSPH Associate Dean of Research.

Students enrolled in the Biostatistics doctoral program must request special permission from the DGS and the RSPH Associate Dean of Research before accepting any employment outside of Emory University. To facilitate meeting this requirement, all students must submit information regarding any outside employment, including internships, to the DGS and Program Administrator at the beginning of each semester via email.

## 8.10 Leaves of Absence

A student in good standing may be granted up to 2 one-year leaves of absence upon recommendation of the DGS and approval of the RSPH Associate Dean for Research and the Dean of the Laney Graduate School. Students interested in taking a leave of absence should first contact the DGS. For additional information, see the LGS Handbook.

**8.10.1 Returning After Leaves of Absence:** A readmission form must be filled out by the student returning from a leave of absence. This may be done as early as the pre-registration period prior to the semester the student wishes to return but at least two weeks prior to registration.



## 8.11 Grades

Students may take coursework for a letter grade (A, A-, B+, B, B-, C, or F), Satisfactory / Unsatisfactory (S/U), or Audit. Required coursework must be taken for a letter grade. Graduate students may not register for undergraduate level courses for audit. In addition, courses taken as audit credit do not count toward the 9 credit hours required for the semester or toward degree credit hour requirements.

If, upon consultation with their Advisor, the student chooses to enroll in a course with an alternate grading basis of S/U or Audit or to register for a course outside RSPH, the student must first get permission via email from the course instructor. The email approval, along with student ID number and course number, must be submitted to the Program Administrator for registration or grading basis assistance. Students must be enrolled in all courses they attend; “sitting in” a class requires registration. Again, audited courses do not fulfill degree requirements, count towards full-time student status, or fulfill specific credit hour requirements.

Biostatistics students must earn a grade of at least B- in all required program courses and ‘Satisfactory’ in all TATTO and seminar requirements. Students receiving below B- in a required course or ‘Unsatisfactory’ for a TATTO role or seminar course will be required to repeat the course.

## 8.12 Academic Performance

### 8.12.1 Laney Graduate School Standards

Emory University sets minimum standards a student must meet for satisfactory academic performance (see <http://gs.emory.edu/handbook/academic-affairs/standards/index.html>). Specifically, Emory University defines unsatisfactory academic performance as follows:

- A GPA in any semester of less than 2.7;
- Receipt of a grade of F, U, IF, WF or IU in any course; or
- Receipt of two or more incompletes in a semester or an incomplete in one 9 credit hour course.

### 8.12.2 BIOS Program-Specific Standards

Students are expected to make continuing satisfactory progress towards graduation throughout their tenure in the doctoral program.

**During Years 1-2 pre-candidacy**, satisfactory progress is indicated by:

- Maintaining a GPA of 2.7 or higher in each semester;
- Receiving no grade lower than a B- in any required course;

- Taking no more than 1 grade of incomplete in any semester;
- Having no more than 2 grades of incomplete active at any point;
- Successfully pass any required qualifying exams during the summer as scheduled by the Qualifying Exam Committee
- The department encourages students to begin identifying the dissertation advisor by the summer of Year 2

**During Years 2-3 pre-candidacy**, satisfactory progress is indicated by:

- Maintaining a GPA of 2.7 or higher in each semester;
- Receiving no grade lower than a B- in any required course;
- Taking no more than 1 grade of incomplete in any semester;
- Selecting a dissertation advisor by the summer of Year 3; confirmation needed for BIOS and LGS
- Having no more than 2 grades of incomplete active at any point;
- Successfully pass any required qualifying exams during the summer as scheduled by the Qualifying Exam Committee
- Advancing to candidacy by September 15<sup>th</sup> of Year 4. Advancing to candidacy also includes completion of all coursework, JPE 600, JPE in-program requirements, TATT 600, TATT 605, and TATT 610, and successfully passing all Qualifying Exam requirements

**During Years 3+ in candidacy**, students will be considered to be making satisfactory progress if they maintain steady progress towards graduation. It is difficult to place a precise timetable for progress to graduation following completion of the qualifying examination because of variability across dissertation research projects. Generally, during these years, satisfactory progress is indicated by:

- Student's research advancing in substantial, demonstrable ways each semester, documented by 'Satisfactory' grades in BIOS 799R (Dissertation Research credits). In candidacy, students enroll in BIOS 799R and complete the BIOS Research Hours Agreement & Grade Form with their Advisor each semester. The Advisor and DGS evaluate whether the student's research has advanced satisfactorily by the end of each semester based on documentation in this form, and reflected by an S vs. U grade for BIOS 799R.
- Meeting with the full Dissertation Committee annually, at a minimum (more frequent meetings are recommended in years 4+).

### **8.13 Academic Satisfactory Progress**

Satisfactory pace is defined as successfully completing coursework outlined in a student's assigned Track placement and avoiding incompletes. The department reviews the records of all students annually through the annual Individual Development Plan (IDP). Depending on the circumstances, students failing to make satisfactory progress may be refused permission to take a scheduled qualifying exam. Students failing to make satisfactory progress may lose financial support.

Incompletes are granted by permission of the course instructor. Although Laney Graduate School regulations permit students one academic year to complete incomplete work, students should understand that a grade of

Incomplete formally constitutes unsatisfactory progress. Moreover, students will be placed on probation the term following receipt of a grade of F in any course, more than one Incomplete in any academic term, or an Unsatisfactory in pre-candidacy or dissertation research hours. Students may become ineligible for financial support unless the failed course is retaken or all Incompletes are removed.

Together with the Program Administrator, and incorporating feedback from course instructors or advisors, the DGS reviews students records each semester. Students deemed not to be making satisfactory progress on the basis of these reviews will be notified. Subsequent failure by a warned student to achieve sufficient improvement may result in a recommendation to the Laney Graduate School to issue a notice of probation and/or termination. (The Laney Graduate School will automatically place any student on probation if he/she falls below its standards of acceptable progress, as described in the LGS Handbook.) Students on probation for two consecutive semesters, and facing the prospect of a third term in this situation, confront the possibility they will lose financial support and/or be terminated from the graduate program.

### **8.14 Academic Probation**

**Students who do not meet the necessary standards will be deemed to have unsatisfactory academic performance and will be put on academic probation for one semester by the Laney Graduate School.** During the probationary semester, the student must receive no failing grades, must reduce the number of incompletes on his/her record to no more than one, and must attain a cumulative GPA of at least 2.7. During the probation, the student will not be allowed to take incompletes in any courses without permission from LGS. A student who fails to meet the above conditions will be placed on probation for a second semester. When a student has two consecutive probations, the BIOS program maintains the option of recommending dismissal from the Program. Upon consultation with the DGS and Advisors, students may consider transitioning to the BIOS masters track during the second probationary semester if deemed suitable.

### **8.15 LGS Annual Report**

Students contribute to the **BIOS Program's annual reporting** as requested by the Program Administrator. Specifically, students are required to report on their BIOS-related activities such as presentations, publications, and awards. This reporting is in addition to the annual **BIOS Annual Progress Report and Individual Development Plan** that students are to complete with their Advisors each year. Annual reporting will occur in June each year by an electronic collection method.

A student approaching the end of a degree program is responsible for ensuring that all BIOS program, LGS, and University requirements are met. It is the student's responsibility to be aware of and to meet all deadlines. Failure to do so may result in failure to receive the degree until the following semester. See *Section Error! Reference source not found.* in this handbook and detailed steps laid out by LGS at: <http://www.graduateschool.emory.edu/academics/policies/completion.html>

### **8.16 LGS Parental Accommodation Policy**

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

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

### **8.17 Student Support Services**

Graduate school can be a stressful time on your body and mind. Be sure you are taking care of yourself. Reach out to your Faculty Advisor, DGS and/or Program Administrator with concerns and challenges. Students are encouraged to utilize on-campus resources offered by LGS. The following links are to student support services available to you:

- <http://www.gs.emory.edu/guides/students/support.html>
- <https://secure.web.emory.edu/biomed/intranet/students/Resources%20for%20Students.html>

### **8.18 Office of Accessibility Services**

“Emory provides all persons an equal opportunity to participate in and benefit from programs and services afforded to others. The Office of Accessibility Services, part of the Office of Equity and Inclusion, assists qualified students, faculty and staff with obtaining a variety of services and ensures that all matters of equal access, reasonable accommodation, and compliance are properly addressed.” OAS “is committed to providing access to campus resources and opportunities to allow students with disabilities to obtain a quality educational experience.” Qualified students need to register with OAS and make a request for services; see the OAS website for more information: <http://accessibility.emory.edu/students/index.html>. Confidentiality is honored and maintained throughout the process. It is important to note that students must obtain the appropriate documentation each semester, including summer for academic requirements such as the qualifying examinations.

### **8.19 Grievance Policy**

Students with grievances related to some aspect of their program in Biostatistics should make efforts to initially address it with the DGS. The student should describe the grievance and relevant details in a letter to the DGS, who will try, if possible, to resolve the grievance in conversation with the student and relevant parties. If this is not successful, the DGS will appoint a committee consisting of BIOS program faculty members (or faculty members outside BIOS, if the situation warrants) who will review the grievance and propose an appropriate response. The committee will be structured to avoid any conflict of interest. If the DGS is involved with the particular case, then an initial letter should go to the Chair of Biostatistics and Bioinformatics to review the grievance and appoint a committee. If it is

impossible to resolve the grievance within this committee or within the framework of the BIOS administrative structure, or if the student wishes to appeal the decision of the committee, the DGS or Department Chair will forward the grievance to the Office of the Senior Associate Dean of the Laney Graduate School. From this point forward, the grievance will be handled according to the Grievance Procedure outlined in the Laney Graduate School Handbook (<http://gs.emory.edu/handbook/honor-conduct-grievance/grievance.html>).

## **8.20 OMBUDS Office**

The Emory Ombuds Office is a confidential, safe space where you can discuss issues and where those communications are kept confidential to the fullest extent possible. A resource for faculty, staff, and students, we invite Emory community members at every level to bring us concerns about misunderstandings, incivility, or possible wrongdoing. Our role is to promote mutual respect, civility, and ethical conduct, and to alert university leadership to concerns that might justify policy changes. For more information and how to contact the office go here: <https://ombuds.emory.edu/>

## 9. APPENDICES

### 9.1 BIOS Academic Tracks

- Track 1      Students entering with a Bachelor's degree or Masters other than Biostatistics, Statistics or Mathematics
  
- Track 2      Students entering with a Master's degree in Biostatistics or Statistics or an Bachelor's degree with 2 semesters of probability and inference sequence equivalent to BIOS 510/512
  
- Track 3      Students with strong theory but little data analysis; Bachelor's degree with 2 semesters of probability and inference equivalent to 510/511
  
- Track 4      Students with extensive methods but very little theory

## 9. 2 Course Sequencing by Track

### TRACKS 1 & 2

		Track 1	Track 2	
		Students entering with a Bachelor's Degree	Students entering with extensive theory and methods	
Year 1	BIOS 508	Biostatistical Methods I	BIOS 522	Survival Analysis Methods
	BIOS 512	Probability Theory 1	BIOS 707	Advanced Linear Models
	BIOS 701	Public Health Research: Discovery to Practice	BIOS 710	Probability Theory II
	*BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)	BIOS 701	Public Health Research: Discovery to Practice
	PUBH 700	Public Health Foundations ESL if required/Electives	BIOS 790R	Advanced Seminar in Biostatistics ESL if required/Electives
	BIOS 509	Applied Linear Models	BIOS 709	Generalized Linear Models
	BIOS 513	Statistical Inference I	BIOS 711	Statistical Inference II
	*BIOS 790R	Advanced Seminar in Biostatistics BIOS and Non BIOS Electives	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)
			BIOS 780R	Advanced Seminar in Biostatistics BIOS and Non BIOS Electives
Year 2	BIOS 522	Survival Analysis Methods	BIOS 777	How to Teach Biostatistics
	BIOS 707	Advanced Linear Models	BIOS 745R	Biostatistical Consulting
	BIOS 710	Probability Theory II	TATT 600	Teaching Assistant Training Course
	BIOS 745R	Biostatistical Consulting	TATT 605	Teaching Assistantship (FA,SP)
	BIOS 777	How to Teach Biostatistics	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP) BIOS and Non BIOS Electives
	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)		
	TATT 600	Teaching Assistant Training Course		
	*TATT 605	Teaching Assistantship (FA,SP) BIOS and Non BIOS Electives		
Year 3	BIOS 709	Generalized Linear Models	TATT 610	Teaching Associate
	BIOS 711	Statistical Inference II	BIOS 790R	Advanced Seminar in Biostatistics BIOS and Non BIOS Electives
	BIOS 780R	Advanced PhD Seminar		
	BIOS 790R	Advanced Seminar in Biostatistics BIOS and Non BIOS Electives		
	*TATT 610	Teaching Associate (FA, SP) BIOS and Non BIOS Electives	TATT 610	Teaching Associate (FA, SP) BIOS and Non BIOS Electives
		Pre-Candidacy Research BIOS and Non BIOS Electives		Pre-Candidacy Research BIOS and Non BIOS Electives
Year 4		Dissertation Research		Dissertation Research

### SEQUENCING BY TRACK 3 & 4

These tracks are typically discussed in depth at orientation with the student, DGS, faculty advisor and ADAP.

		Track 3	Track 4	
		Students entering with strong theory but little data analysis in consultation with DGS and advisor	Students entering with extensive methods but little theory in consultation with the DGS and advisor	
Year 1	BIOS 508	Biostatistical Methods I	BIOS 512	Probability Theory 1
	BIOS 707	Advanced Linear Models	BIOS 522	Survival Analysis Methods
	BIOS 710	Probability Theory II	BIOS 701	Public Health Research: Discovery to Practice
	BIOS 701	Public Health Research: Discovery to Practice	BIOS 790R	Advanced Seminar in Biostatistics
	BIOS 790R	Advanced Seminar in Biostatistics ESL if required/Electives		ESL if required/Electives
	BIOS 509	Applied Linear Models	BIOS 513	Statistical Inference I
	BIOS 711	Statistical Inference II	BIOS 709	Generalized Linear Models
	*BIOS 790R	Advanced Seminar in Biostatistics BIOS and Non BIOS Electives	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)
Year 2	BIOS 522	Survival Analysis Methods	BIOS 707	Advanced Linear Models
	BIOS 777	How to Teach Biostatistics	BIOS 710	Probability Theory II
	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)	BIOS 777	How to Teach Biostatistics
	TATT 600	Teaching Assistant Training Course	BIOS 790R	Advanced Seminar in Biostatistics (FA, SP)
	*TATT 605	Teaching Assistantship (FA,SP) BIOS and Non BIOS Electives	TATT 600	Teaching Assistant Training Course
			TATT 605	Teaching Assistantship (FA,SP) BIOS and Non BIOS Electives
	BIOS 709	Generalized Linear Models	BIOS 711	Statistical Inference II
	BIOS 780R	Advanced PhD Seminar	*BIOS 790R	Advanced Seminar in Biostatistics
	BIOS 790R	Advanced Seminar in Biostatistics	TATT 610	Teaching Associate
	*TATT 605	Teaching Assistantship (FA,SP) BIOS and Non BIOS Electives	BIOS 790R	Advanced Seminar in Biostatistics
Year 3	*TATT 610	Teaching Associate (FA, SP)	*TATT 605	Teaching Assistantship (FA,SP) BIOS and Non BIOS Electives
	BIOS 795R	Pre-Candidacy Research BIOS and Non BIOS Electives	TATT 610	Teaching Associate (FA, SP) BIOS and Non BIOS Electives
				Pre-Candidacy Research BIOS and Non BIOS Electives
Year 4 -		Dissertation Research		Dissertation Research

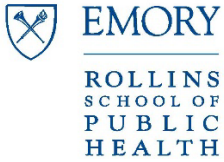


## 10. FORMS

The following forms are specific to the BIOS program, and attached in the sub-sections below:

- 10.1 BIOS Course Registration Request Form – Example
- 10.2 BIOS Dissertation Student/Advisor Agreement Form
- 10.3 BIOS Dissertation Defense Scheduling Form

Throughout the Program , students are also required to submit various LGS-specific forms, as described in this BIOS Student Handbook and in the LGS Student Handbook, and which can be found on the LGS website: <http://www.graduateschool.emory.edu/academics/index.html>.



A completed advisor form is required each semester and summer term. Class and course information is located within [Course Atlas](#). Please note [cross-registration deadlines through ARCHE](#) often differ from the university.

**SIGNATURES**

- Faculty advisor’s **signature required, including e-signatures**
- Instructor and/or program administrator permission needed if course falls outside of Biostatistics. Please forward the approval notification to [angela.guinyard@emory.edu](mailto:angela.guinyard@emory.edu)
- Permission required for S/U or audit option; have instructor to send email to [angela.guinyard@emory.edu](mailto:angela.guinyard@emory.edu)
  - S/U may not be an option and take note of limit of S/U for courses
- If requesting a Directed Study, attach the [proposal form](#) to this request

Student Name (Print): \_\_\_\_\_ Emory ID: \_\_\_\_\_

Class Number	Department Name	Course Number	Section Number	Grading Basis (Permission Required for S/U or audit)			Credit Hours
				Letter	S/U	Audit	

REGISTRATION CHANGE – complete this section if dropping and/or swapping a course.

Registration Change Action		Class Number	Department Name	Course Number	Section Number	Grading Basis (Permission Required for S/U or audit)			Credit Hours
Drop	Add					Letter	S/U	Audit	

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Faculty Advisor’s Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 ADAP Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Complete all sections. Feel free to schedule an advisement appointment; email this form before our meeting time. If you’re not scheduling an appointment or registering for Dissertation Research only, email form to Angela no later than **April 15, 2022**. Please note course scheduling subject to updates as needed.



Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

This form is required to formalize the student-advisor agreement. Both parties are encouraged to discuss this document thoroughly to have a clear understanding of the agreement. Submit this form to the ADAP and DGS upon successful completion of the qualifying exam, and, at least 3 months prior to submission of the Written Dissertation Proposal or by April 30 of Year 2, whichever occurs first.

Key areas of consideration are:

- 1. Understanding the graduate policies of both the Laney Graduate School and the Department of Biostatistics
- 2. Expectations for the student and advisor relationship
- 3. Funding

**Student Responsibilities (please check each box)**

- I have reviewed the *LGS Building Successful Mentoring Relationships Student Guide*: [https://www.gs.emory.edu/ includes/documents/sections/professional-development/mentoring-guide\\_student\\_final.pdf](https://www.gs.emory.edu/includes/documents/sections/professional-development/mentoring-guide_student_final.pdf).
- I will communicate and meet with my advisor regularly to receive updates regarding the progress of my research, attending relevant meetings, and discuss how my research grades (pre-candidacy and dissertation) are evaluated each semester/summer term.
- I'm responsible for coordinating the annual review meeting to discuss and complete the Annual Progress Report.
- I am to collaborate with the dissertation advisor in locating funding support (internal and external) as soon as possible for communication to the ADAP by May 1 of Year 3.
- Collaborate with the advisor to select the dissertation committee. Additionally, develop a dissertation research plan, the proposal (by March 15 in Year 4), and oral defense.
- Discuss resources to enhance my research, including professional development such as publications, presentations and conference attendance.

I would like to engage in a dissertation advising relationship with the faculty member listed here:

Faculty Name: \_\_\_\_\_ \*Faculty Name: \_\_\_\_\_  
(Co Advisor if applicable)

Student Name: \_\_\_\_\_ Student Signature: \_\_\_\_\_

**\* If declaring co-advisors, please submit a signed copy of page two for each advisor.**

**Advisor Responsibilities (Please check boxes)**

- As a BIOS faculty member, I agree to support this student in meeting requirements and policies outlined in the [Laney Graduate School Handbook](#) and the Biostatistics PhD Handbook.
- We have discussed and communicated clear research and training expectations, including communications plans, relevant and routine meetings and reporting of research (pre-candidacy or dissertation) grades. The grade must be reported to the DGS and ADAP each semester one week prior to the published grade due dates.
- I understand I'm responsible for assisting Biostatistics and the student in Year 3 to identify continued funding (stipend and sponsored tuition) to begin September 1 in Year 4 and continuing for the duration of the student's enrollment and making satisfactory academic progress towards degree completion. This may be composed of grants, collaborations and/or external fellowships.
- I will advise student on career development opportunities, attending conferences, understanding authorship and ethical responsibilities in research. Additionally, I will assist student in understanding complementary skills beyond the research such as written and oral communication, presenting and networking.

Advisor's Name: \_\_\_\_\_ Advisor Signature: \_\_\_\_\_

**Student and Advisor Responsibilities**

To engage in intellectually inspiring, ethically responsible and supportive environment.

Adhere to the policies and procedures set forth by the Laney Graduate School, the Biostatistics PhD Program and Emory University including requirements and deadlines. Examples are the [Graduate School Code of Conduct](#), and [Faculty Mentoring Guide](#) including *Confidentiality and Release of Information About Students*.

Ensure each dissertation committee consist of three Biostatistics Graduate Faculty members and one committee member outside of the department.

Proposed dissertation topic area (subject to change): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Both the student and the dissertation advisor agree to the responsibilities as outlined

Students Name: \_\_\_\_\_ Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Advisor's Name: \_\_\_\_\_ Advisor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please submit this form to Angela Guinyard



## Dissertation Defense Scheduling Form (EXAMPLE)

Complete and return this form to the Department of Biostatistics ADAP no later than three weeks prior to the date of your defense to allow time for room reservations and proper announcement to the Emory community. Please note if request is received within three weeks of desired date or, if there is a previously schedule event during the proposed date and time, you will be asked to consult with your committee for an alternative date.

**Your full name:**

*(exactly as it will be printed in the submitted dissertation)*

**Announcement Details**

Full dissertation title:

*(the dissertation title printed here is required to be the exact match of the one submitted to ETD)*

Defense date, e.g. Tuesday, October 11, 2022 at 10:00 am:

Desired location (subject to availability):

**Dissertation Committee**

Chair (First and last name, degrees):

Co-chair: (First and last name, degrees):

Dissertation committee member (First and last name, degrees):

Dissertation committee member (First and last name, degrees):

Dissertation committee member (First and last name, degrees):

**Abstract**

Provide a condensed abstract of your dissertation. Abstract should not exceed the equivalent 75% of an 11 x 8.5 letter document. Ensure you have checked for spelling and grammatical errors

**Headshot**

Provide your most recent headshot

**Dissertation Availability**

You must place a printed copy of the full dissertation at the desk of Mary Abosi, two weeks prior to the scheduled date.

Provide all requested information at a minimum of three weeks with the exception noted under dissertation availability. Note: the longer you wait to provide this information will result in the ADAP's inability to schedule.

Your signature:

Date received by ADAP (in person or via email):

## **PROGRAM CONTACT INFORMATION**

James T. Laney School of Graduate Studies

[www.gs.emory.edu](http://www.gs.emory.edu)

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