PhD in Economics

Department of Economics Emory University

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Introduction

The Purpose of the Program

The Economics Department at Emory University offers a Doctor of Philosophy (PhD) in Economics, which is the highest degree awarded by universities. Students undertake an extensive program of study and research in economics. PhD study culminates with a doctoral dissertation, which is an original and thorough contribution to the subject. Successful students demonstrate original thinking and an inclination towards intensive research work.

The Emory PhD program in Economics prepares students to become productive scholars and effective teachers in colleges and universities. Our graduates are also well prepared for research positions in private research organizations, industry, and government. Our graduates have gone on to productive and successful careers in many different fields of economics. We are proud of their many accomplishments. Students first master the core areas of microeconomics, macroeconomics, and probability/statistics/econometrics. They demonstrate their command of these subjects by passing comprehensive core examinations. During the second and third years, students focus their studies in specialized fields offered by the Department. The training provides students with an understanding of research methodology and research methods and techniques as well as effective communication and teaching.

By completion of the program, students will be able to:

- 1. Formulate or pose a research question or scholarly project.
- 2. Conduct independent research using methods appropriate to the field or discipline.
- 3. Communicate the results, findings, or new interpretations of their scholarly work.

The PhD program in economics at Emory is a full-time program. While some students may earn their PhD in four years, most will finish in five years. Graduate students are expected to reside in the Atlanta area and take classes and conduct research at Emory. With rare exception, all graduate students receive a tuition waiver, a competitive stipend, and other benefits available to Emory students provided they are in good standing in the program.

The Purpose of the Handbook

This Handbook describes practices and requirements specific to our program. It supplements the LGS Handbook, which can be found on the LGS web page (http://gs.emory.edu/handbook/).

Students who consider applying to Emory's PhD program in economics will find key information about our program in this Handbook, including the top reasons to apply to the program, distinct features of the program, and application procedures. For students currently enrolled in the graduate program, this Handbook will provide of the relevant information about expectations, procedures, and requirements for completing the PhD degree.

I. Application and Financing

This Handbook describes the procedures, policies, and requirements for the Economics PhD Program. It also lists resources and opportunities available for graduate students at Emory University. We hope that the Handbook gives you proper perspective on the life as a graduate student at Emory and in Atlanta. If you believe that there is a good match between your interests and those of our Program, we hope that you will apply to Emory. Please feel free to contact us with any questions.

Is PhD Study Right for Me?

Do you find it easy to immerse yourself in dispassionate and impartial analyses of economic issues? Do you see yourself teaching the difficult and subtle interrelationships of economic incentives, opportunities, and outcomes? Do you hope to work in a field in which analytical economic expertise is productive? If you answer yes to one or more of these questions, then study toward the PhD at Emory may be the right choice for you.

If you are primarily interested in applying economic concepts to business strategy questions involving marketing, production, and efficient organization, then a Master of Business Administration (MBA) program is probably your best choice. If you are primarily interested in policy analysis and issues related to government administration, then a degree from a public policy school may be appropriate, although a PhD in economics can also lead to this kind of career. If you are interested in a research degree but prefer finance, marketing, management, or operations research, then a doctorate degree in business administration is the right choice for you. Although the PhD in economics and business are similar, research undertaken by economics graduate students is usually more motivated by policy issues rather than industry questions.

At Emory, we only admit students interested in obtaining the PhD degree. Most graduate students are apprentice faculty who conduct research and teach courses. Many economics PhDs do indeed spend at least part of their careers in academia. Others pursue careers in full-time research in private research institutions, government, large corporations, financial institutions, or trade associations. For example, we have close ties with the Federal Reserve Bank of Atlanta and a great record of placing students at the Federal Reserve, where they are engaged in policy work. You can obtain a list of our placements at https://economics.emory.edu/graduate/alumni-job-placement.html.

Why Should I Apply to Emory?

The Emory PhD Program puts students on the intellectual frontier of the economic discipline by introducing them to leading-edge theories and techniques. With this training, students can actively investigate research questions of particular interest and importance to them.

The hallmark of the Emory PhD Program is the close interaction between faculty and students. Classes are small and interactive, and students have the opportunity to obtain a deep understanding of the material. The faculty are eager to mentor students and involve them in their research. In fact, many students write research papers with the faculty. Joint work is submitted to

academic journals for publication. Students are provided the opportunity to present research in departmental seminars, as well as at non-Emory academic conferences.

Our key strengths are:

- Small student to faculty ratio and small interactive classes
- Energetic research-driven faculty
- Close research collaboration between faculty and students
- Financial support (competitive stipend and full tuition scholarship) contingent upon acceptable progress towards degree completion; no task assignments during the first year,
- Close ties for courses and research with Goizueta Business School, Rollins School of Public Health, School of Law, Mathematics Department, and Department of Quantitative Theory and Methods
- Partnership with the Federal Reserve Bank of Atlanta

Application Process

Applicants should submit their application and all supporting documents online. Please do not mail your application and supporting documents. For more information, please visit http://www.gs.emory.edu/admissions/index.html.

We will begin accepting new applications in September. Candidates must apply by January 1 to receive full consideration.

Admissions Deadlines and Timeline

- **January 1** Deadline for submission of an online application and supporting documentation.
- Feb/March/early April: Admissions offers are made by the department.
- April 15 Deadline for students to inform the Economics Department of their decisions.

We have no early admissions. Students are only admitted for the fall semester.

Application Requirements

For all applicants:

- Online application only
- Transcripts of all post-secondary academic work (transcripts that are not in English must be translated and notarized with official seal)
- Three confidential letters of recommendation
- Resume/CV
- Statement of Purpose
- Graduate Record Exam (GRE) general test: Every applicant is expected to take the GRE general test. You should take the GRE as early as possible, preferably no later than December prior to the year in which you seek admission. For more information, see http://www.ets.org/gre.
- Application fee

Additionally for international applicants:

• Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS): Applicants who speak English as a second language must take either the TOEFL exam or IELTS. For more information, see http://www.ets.org/toefl or http://www.ielts.org/.

All application materials should be uploaded electronically.

Admission Criteria

The admission decision rests on many factors including, but not limited to:

- Statement of purpose
- Verbal, quantitative, and analytical scores on the GRE when available.
- TOEFL or IELTS score for non-native English speakers
- Academic record
- Letters of recommendation
- Previous training in economics
- Previous training in mathematics and statistics
- Evidence of scholarly publication, research, or other academic qualifications

The Department does not have a predetermined formula for weighing admission criteria nor any rigid cut-off points on these criteria. The primary consideration is the likelihood that the candidate will be able to complete the PhD program with distinction and utilize the acquired knowledge and skills effectively in their future career. Each application is examined by an admissions committee consisting of economics faculty. A master's degree is not required to qualify for the program, but applicants with bachelor's degrees need to demonstrate a strong mathematical background and a commitment to graduate study in economics.

Frequently Asked Admissions Questions

What is the timetable for the admissions process?

Students are only admitted for the fall semester. Deadline for submission of an online application and supporting materials is January 1. Offers of admission must be accepted by April 15.

How do I apply?

Applications are submitted online. Full instructions and requirements can be found at http://www.gs.emory.edu/admissions/index.html.

Do you admit international students?

Yes. We do not discriminate based on nationality or any other factors. We examine each applicant on the basis of their own portfolio. Students typically enter the U.S. on an F-1 visa. For more information on Emory's international student program, see http://www.emory.edu/isss/.

Do you offer fellowships or other financial aid?

Students admitted to our program receive multiple years of support (tuition plus stipend)

contingent upon acceptable progress towards degree completion. Advanced students may receive additional support through teaching, research grants, or dissertation completion fellowships. Additional funds are also available through special, competitive fellowships offered through the University. Students have the opportunity to teach in summer for additional pay starting at their third year.

Do I have departmental duties in exchange for the fellowship?

Students are expected to work as research assistants, teaching assistants, and/or teaching associates in all years in which they receive a fellowship, excluding the first year when they have no work assignment.

What requirements do I have to fulfill before I start teaching?

All students are required to complete the Laney Graduate School's TATTO (Teaching Assistant Training and Teaching Opportunity) 600 course as well as ECON 593: Teaching Economics within their first two years. Provided that this training is completed successfully, you will be enrolled in TATTO 605 for one semester and will receive hands-on experience with teaching through TA duties in the second or third year. You will have the opportunity to teach your own course(s) after your third year provided you have completed TATTO 605.

Do you require the GRE (Graduate Record Examination)?

Yes. The GRE general test is expected for all applicants unless otherwise stated in our application. GRE scores are valid for a period of 5 years. The TOEFL or IELTS is also required of all international students from non-English speaking countries.

Can the TOEFL/IELTS requirement be waived?

If you have completed your undergraduate or graduate education at an English speaking university, this requirement is waived.

Do you require official GRE and TOEFL scores sent by ETS?

Yes. We do require official scores to be sent by ETS when requested in our application. The department code for the GRE is 1801. The department code for the TOEFL is 84. Emory's code is 5187.

Will you accept a copy of my GRE scores and transcripts rather than official reports? The admissions committee can use a scanned or copied version of your scores and transcripts for initial review, but we will need official versions of both documents (if requested in our application) once you are admitted.

Do you require the TSE (Test of Spoken English)?

We do not require the TSE, but we do have an ELSP proficiency assessment, which all nonnative English speakers must take upon arrival at Emory. You are exempted from or placed in the ELSP course sequence based on the outcome of this assessment.

Do you have minimum GPA or GRE requirements?

We do not have strict minimum requirements, although we recommend that applicants demonstrate a score of at least 60% on the GRE Quantitative Exam and 50% on the GRE Verbal Exam. Please be aware that most applicants will score in much higher percentiles than the

minimum proficiency thresholds. We also recommend that you show high grades in your upper level economics, mathematical, and statistics courses.

Can I have more than three letters of recommendation? Yes, you can provide up to four letters of recommendation.

Can I submit a writing sample along with my statement of purpose? Yes.

What fields do your faculty specialize in?

Our faculty specialize in a wide variety of topics, including but not limited to Econometrics, Health Economics, Industrial Organization, Law and Economics, Macroeconomics, Microeconomics, and Public Economics.

What classes can I take to strengthen my preparation for the PhD Program?

We have found that advanced preparation in mathematics and statistics is very useful to our students. Courses such as Real Analysis, Multivariate Calculus, Linear Algebra, Differential Equations, Probability Theory and Statistics, and Econometrics. We do not require these courses for admission, but strongly recommend them.

Do you offer a self-contained Master's Degree Program?

No. The program is designed solely for PhD study. There are no Master's-level courses in our PhD curriculum.

Do I need a master's degree to qualify for your program?

No, although students who have taken more advanced courses in economic theory, mathematics, and econometrics are at an advantage when being considered for admission.

Do you accept transfer students?

Yes. The maximum number of credits that may be transferred is 9 semester hours. Every student must take and pass all core exams in the Economics Department at Emory University, although a student who has mastered the material covered in courses at another institution may petition the DGS for course waivers. The waiver may or may not be approved depending on the contents of the courses and the student's performance.

Financing

Laney Graduate School Stipends and Tuition Scholarships

http://www.gs.emory.edu/funding/scholarships/index.html

Types of Support

The Laney Graduate School (LGS) generally awards two types of support to students — tuition scholarships and stipends. For more information about these special fellowships, please refer to the Special Fellowships webpage: https://www.gs.emory.edu/funding/index.html.

Stipends

Students in the Economics Department on the standard fellowship receive monthly payments throughout the year. Stipends are paid on the last working day of the month.

To retain funding from the LGS, students must make adequate progress in the program. See the "Adequate Progress" section below for a definition of what constitutes adequate progress.

Tuition Scholarships

Tuition scholarships for students in the Economics Department cover full tuition. These scholarships are awards for tuition credits only. They are not cash and cannot be awarded as stipend dollars. Students with the standard tuition scholarships are responsible for paying University fees.

Health Insurance

All students must have health insurance coverage. Students are required to either enroll in the Emory University Student Health Insurance Policy or have health insurance that meets specific waiver criteria. See http://www.graduateschool.emory.edu/funding/tuition.html for more information about this requirement.

Employment

The PhD Program is a full-time academic commitment during the fall and spring semesters. Students also work approximately 10 hours per week performing departmental Research Assistant (RA) or Teaching Assistant (TA) duties. First-year students are usually exempt from RA/TA duties. Students may also work outside of the department. This additional work is permitted as long as it does not interfere with the course of the student's studies. The Director of Graduate Studies (DGS) must be informed on a per-semester basis any additional work the student undertakes outside of the department. International students should ensure that any additional work does not violate the terms of their visas.

Student Loans

The Laney Graduate School offers an emergency student loan of up to \$1,000 for actively enrolled students. More information can be found at https://www.gs.emory.edu/funding/emergency_loans.html.

II. The PhD in Economics

The mission of the Ph.D. program in economics is to provide a highly focused and intense education to a select group of graduate students and to help students bring their academic knowledge and rigor to the public arena and contribute to the public discourse on the most pressing issues of the day. We provide students with training in the most current and advanced quantitative methods, which can be applied to research in the focus areas of macroeconomics, health economics/applied microeconomics, and econometrics. Our program builds upon existing collaborations within the university and develops partnerships with other Atlanta institutions. These partnerships foster our educational mission, enhance the student experience, and promote innovative research and careful policy analysis.

In the first year of the program, all students receive rigorous training in the foundational tools of economics: microeconomic theory, macroeconomic theory, quantitative methods, probability and statistics, and econometrics. Once students have demonstrated mastery of these subjects by successfully completing the corresponding courses and passing the comprehensive core examinations, students select an area of focus for further study. The focus areas currently offered are macroeconomics, health/applied microeconomics, and econometrics.

Macroeconomics: Macroeconomics research helps shape monetary and macro policy at national and global levels. Our faculty includes some of the country's most prominent macroeconomists, who maintain close ties with the Federal Reserve Bank of Atlanta. Our relationship with the Atlanta Fed gives students unique research opportunities that will enable them to gain the necessary skills to be leading researchers and policy experts. Some students will be eligible for research assistantships at the Atlanta Fed. All students in macro are expected to participate in a joint Emory/Atlanta Fed seminar series.

Health Economics/Applied Microeconomics: The focus area of health economics and applied microeconomics trains students to use the tools of economics to study research questions that surround population health and well-being. Students in this focus area will have the opportunity to interact with researchers at the Centers for Disease Control and Prevention, the Rollins School of Public Health, the Emory Law School, and the Emory School of Medicine. Students in applied micro are also expected to participate in a seminar series conducted jointly with the Department of Health Policy and Management in the Rollins School of Public Health.

Econometrics: All students in the PhD program will receive rigorous training in econometric methods. Econometrics has a central place as a core subject area that provides students with necessary skills to examine important policy issues with scientific rigor and credibility. Students wishing to develop econometric skills beyond the required courses will receive in-depth training in modern approaches to empirical research. Students will benefit from the Department's seminar series in Econometrics and from collaborations with the Emory College Department of Quantitative Theory and Methods.

Program Requirements

Depending on the student's fields of interest, the exact sequencing and content of the program may vary. The minimum requirements for completing the PhD Program in Economics are:

- 1. Complete at least 54 credit hours during the course of study.
- 2. Pass nine required economics core courses taken in the first two years of the program and taken for a letter grade.
- 3. Pass the core exam and first year mastery requirement; the core examinations are in Microeconomics, Macroeconomics, and Probability and Statistics/ Econometrics, which are administered in the summer after the first year of the program.
- 4. Pass at least five elective courses. Elective courses must be 3 or 4 credit hours and taken for a letter grade. A minimum of two elective courses must be in one of the focus areas of the department. At least three elective courses must be taken from amongst the department elective offerings. Other elective courses may be taken from other. departments within Emory, or at other universities, with prior approval of the DGS.
- 5. Pass TATTO sequence to demonstrate teaching and communication proficiency.
- 6. Complete JPE sequence that includes the 6-hour core course (JPE 600) in scholarly integrity, 6 hours of training in program-based ethics material, and a minimum of 4 public topical workshops, training sessions, or lectures as part of the Jones Program in Ethics.
- 7. Regularly attend a Dissertation Workshop. A grade of "S" must be received for 4 semesters. Students are required to attend all seminars in their focus area, as well as department-wide seminars, and are highly encouraged to attend other seminars offered by the department.
- 8. Pass the field paper requirements to begin developing a research specialty (see the Field Paper requirement section).
- 9. Successfully propose and then defend a PhD dissertation showing an original contribution to the field of economics.

Academic Curriculum

The PhD Program at Emory is a mix of required core courses that are essential for being a professional economist and electives that are chosen to meet students' particular interests.

Course Guide

Required Core Courses:

- Econ 600: Microeconomic Theory I
- Econ 601: Microeconomic Theory II
- Econ 610: Macroeconomic Theory I
- Econ 611: Macroeconomic Theory II
- Econ 620: Probability Theory and Statistical Inference
- Econ 621: Econometric Methods I
- Econ 622: Econometric Methods II
- Econ 526: Quantitative Methods I (waived for students with strong mathematics background)

• Econ 626: Quantitative Methods II

Dissertation Workshop:

- Econ 791: Dissertation Workshop
- Required for second and third years; strongly recommended for all other years. Second and third year students must receive a grade of "S" for 4 semesters.

Required TATTO Sequence:

- Econ 693: Teaching Economics
- Tatto 600: LGS Workshop
- Tatto 605: Teaching Assistantship
- Tatto 610: Teaching Associateship

Required Jones Program in Ethics (JPE) Sequence:

- JPE 600: A six-hour core seminar in scholarly integrity
- Program-Based Instruction: A minimum of 6 hours of program-based ethics material. May take place within existing courses or faculty-led workshops.
- JPE 610: Minimum of four workshops. These workshops will be sponsored by the LGS, the Emory Center for Ethics, and will include any other relevant occasional lectures or workshops. Students will register for these sessions individually, and participation will be recorded on the student's transcript.

Elective Courses:

Students must pass at least five elective courses. Elective courses must be 3 or 4 credit hours and must be taken for a letter grade. A minimum of two elective courses must be in one of the focus areas of the department (listed below). At least three elective courses must be taken from amongst the department elective offerings. A full list of the departmental elective course offerings and descriptions are provided in Appendix A.

We recognize that student interests may not be well formed upon admission and the department electives may not meet the needs of all students. Therefore, some elective classes are also available in other departments within Emory and through the ARCHE program and may be taken to supplement the focus area with prior approval from the Director of Graduate Studies.

Students may also fulfill elective credit hour requirements by enrolling in independent study courses with faculty (Econ 597R), with permission from the Director of Graduate Studies. No more than four credits of independent studies are permitted.

Area of Focus: Macroeconomics

- Econ 711: Monetary/Financial Economics
- Econ 720: Topics in Macroeconomics and Finance
- Econ 726: Computational/Empirical Economics
- Econ 732: International Finance

Area of Focus: Econometrics

- Econ 721: Advanced Microeconometrics
- Econ 722: Time Series Econometrics
- Econ 723: Topics in Econometrics I
- Econ 727: Topics in Econometrics II

Area of Focus: Health/Applied Microeconomics

- Econ 602: Microeconomic Theory III
- Econ 742: Law and Economics
- Econ 761: Market Structure and Imperfect Competition
- Econ 763: Labor Economics
- Econ 770: Health Economics I
- Econ 771: Health Economics II
- HPM 740: Doctoral Seminar in Health Policy

Economics Department Program Requirements for Advancing to Candidacy:

- 1. Pass all required core courses and five elective courses
- 2. Pass four semesters of a dissertation workshop with a grade of 'S'
- 3. Pass the first-year mastery requirement
- 4. Pass the field paper requirement

Additional LGS Requirements for Advancing to Candidacy:

- 1. Pass TATTO 600, TATTO 605, JPE 600, and in-program ethics training
- 2. Resolve any Incomplete (I) or In Progress (IP) grades
- 3. Be in good standing with a minimum cumulative 2.70 GPA
- 4. Have earned at least 54 credit hours at the 500 level or above

Timing for Advancing to Candidacy:

Students should enter candidacy as soon as all requirements have been completed. Students must reach candidacy by September 15 of their fourth year.

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. See https://www.gs.emory.edu/academics/policies-progress/candidacy.html for instructions on submitting the candidacy signature form.

Course Sequence

Not all students will follow the same course of study. Nonetheless, the following sample course of study may prove useful. In the first year, students must complete a series of courses designed to lay a firm foundation in the basic skills needed to successfully conduct Economics research. These courses will lead directly into the Core Exams, which will be administered toward the conclusion of the first year.

1st Year:

Semester	Course	Credit hours
August	Econ 526: Quantitative Methods I and/or Econ	3/3
	626: Quantitative Methods II	
Fall	Econ 600: Microeconomic Theory I	4
Fall	Econ 610: Macroeconomic Theory I	4
Fall	Econ 620: Probability Theory & Statistical Infer.	4
Fall	English Language Support Program (ELSP) class	(4)*
	(if needed)	
Fall	Jones Program in Ethics (JPE) 600 (1 day course)	0
	Total credit hours for Fall:	Up to 18
Spring	Econ 601: Microeconomic Theory II	4
Spring	Econ 611: Macroeconomic Theory II	4
Spring	Econ 621: Econometric Methods I	4
Spring	ELSP class (if needed)	(4)*
	Total credit hours for Spring:	12
_	Total credits for year 1	Up to 30

Note: A "*" indicates that credit does not count towards 55 credit requirement for graduate coursework.

2nd Year:

Semester	Course	Credit hours		
August	TATTO 600 (2 day workshop)	1		
Fall	Econ 622: Econometric Methods II	4		
Fall	Elective 1	4		
Fall	Elective 2	4		
Fall	Econ 693: Teaching Economics	1		
Fall	Econ 791: Dissertation Workshop, Seminar (S/U	2		
	grade)			
	Total credit hours for Fall:	16		
	·			
Spring	Elective 3	4		
Spring	Elective 4	4		
Spring	Elective 5	4		
Spring	Econ 791: Dissertation Workshop, Seminar (S/U	2		
	grade)			
Fall/Spring	Jones Program in Ethics program based	0		
	instruction (6 hours required)			
	Total credit hours for Spring:	16		
	Total credits for years 1 and 2	Up to 60		

Note: A "*" indicates that credit does not count towards 55 credit requirement for graduate coursework.

3rd Year:

Course	Credit hours
Elective (if needed)	TBD
Econ 697R: Directed Study (if needed)	TBD
Econ 699R: Thesis Research (S/U grade)	
Econ 791: Dissertation Workshop, Seminar (S/U grade)	2 Fall / 2 Spring
TATTO 605 (enroll when TA)	2
Jones Program in Ethics 610 (4 workshops required)	0

Note: A "" indicates that credit does not count towards 55 credit requirement for graduate coursework.*

4th Year and Beyond:

Course	Credit hours
Econ 799R: Dissertation Research	TBD
TATTO 610 (enroll when teaching)	2

Note: A "" indicates that credit does not count towards 54 credit requirement for graduate coursework.*

Course Selection Policies

Course Registration

The Graduate Program Coordinator will distribute course registration request forms at the end of each semester. To be registered for the following semester, you MUST return this completed form promptly. The Graduate Program Coordinator will NOT register you without this form and your registration for the semester will be cancelled by the LGS. All course registrations must be approved by the DGS. Students will be registered for a study course in the summer (ECON 699 if not in candidacy and ECON 799 if in candidacy). The Graduate Program Coordinator will send a preregistration notice at the end of spring semester for summer registration.

Course Atlas

The Economics Department Graduate Course Atlas is published each semester by the LGS. It can be accessed online at https://atlas.emory.edu/. Course listings can also be found on OPUS under the "Browse Course Catalog" option.

Directed Study

Students wishing to enroll in Econ 697R: Directed Study must meet with the faculty of interest to develop a topic, syllabus, and guidelines for the course. The student and faculty member must then submit a proposal to the Director of Graduate Studies for approval. Upon receipt of approval, the Graduate Program Coordinator will register the student. This course is generally

reserved for use by students who are interested in topics not currently offered as a regular course.

Waiving Core Courses

A student who completed study of the material covered in a core course at another institution may petition the DGS for a course waiver. The waiver may or may not be approved depending on the contents of the courses and the student's performance. The maximum credit that may be transferred is 9 semester hours. Every student must pass all core exams in the Economics Department at Emory University.

Taking Courses Outside the Department

With the permission of the DGS, a student may request to take a course in other departments or schools at Emory University after advancing to the second year. Our students often take classes in Goizueta Business School, Rollins School of Public Health and the School of Law.

Taking courses outside Emory University; e.g., Georgia Tech, Georgia State University, and University of Georgia is possible through the ARCHE (Atlanta Regional Council for Higher Education) Program (http://registrar.emory.edu/Students/arche.html). Applications must be completed, approved by the DGS, and submitted by the appropriate deadline: The deadline for the fall semester is July 15 and November 15 for the spring semester. The maximum credits that may be transferred is 9. Undergraduate courses may be taken with the permission of the instructor and DGS, but do NOT count towards graduation credit hours. Graduate courses taken for a letter grade or S/U will count towards graduation credit hours.

Note that immunization records must be submitted to the other institution, so students must be able to provide full vaccination records before the respective deadlines.

Core Examinations and First Year Mastery Criteria

In May and June following the completion of the first-year courses, students in the economics PhD program take core examinations that test their competency in broadly defined core areas of knowledge and fundamentals of economics. These are written exams in: 1) Microeconomic theory; 2) Macroeconomic theory; and 3) Probability, statistics, and econometrics (PSE). The core exams are based on, but not limited to, the material covered in the first-year required classes. The three core exams will normally be offered shortly after the spring final exam period in May and/or June.

Students who, by the end of the Spring semester of their first year, obtain at least the cumulative GPA of 3.90 may petition (in writing and within 48 hours from the deadline for grades to be turned into by graduate course instructors) the Director of Graduate Studies for an automatic 'pass' for the core examination for which they obtained the letter grade of 'A' in both courses of the corresponding core area. The DGS, in consultation with the students' core area instructors, will determine the merits of the request with the understanding that if granted, the beneficiary will start work on research immediately after a 'pass' is obtained for all other core examinations. In such cases, all other policies described above are still in place.

The core exams will be scored, and a committee of faculty will then review each student's firstyear course performance and core exam scores to determine whether the student has exhibited mastery of the first year material. Students will receive a single grade of pass, retake, or fail based on their overall performance on the core examinations and in the core courses. Scores on core exams will weigh heavily in the decision but the faculty committee may substitute high course grades for mediocre performance on a core exam when determining pass, retake, or fail. Students earning the grade of pass will continue on to the second year of the PhD program. Students earning the grade of retake will be required to retake one or two qualifying exams in order to demonstrate competency in the weak subject area(s). Repeat exams will be given towards the end of the summer so that the students will know the result of the exam(s) before the beginning of the fall semester. Upon retakes, the committee will meet again to evaluate the retake performance and will determine if the student may continue in the program. If a student fails a second time, the program will recommend dismissal to Laney Graduate School. Students are only allowed one retake of up to two exams. Students who fail all three exams will not be allowed a retake. These students will receive an overall grade of fail and the program will recommend dismissal to Laney Graduate School, however, these students may be eligible to earn a master's degree.

The core exams are graded on a blind basis to ensure fairness. Accordingly, each student is assigned an identification letter, which is confidentially maintained by the Graduate Program Coordinator. This letter is the only identification on the exams. In addition, the faculty review committee evaluating the overall performance will be comprised of faculty who will take steps to maintain fairness and mitigate bias in determining the students' outcomes.

Failure to take a core exam is equivalent to failing the exam. Students with a first-year average GPA of less than 2.7 will not be allowed to take the core exams nor continue with the PhD program.

Fields of Specialization

Students are required to take at least five courses that will lead to specialization (concentration) in one of three focus areas (macroeconomics, health/applied microeconomics, econometrics). These courses are taken as electives during the second and third year and must be passed. The areas of focus and their course sequences are offered to allow students to specialize in a particular area of economics. Details of requirements for fulfilling specialization through elective courses were listed earlier in Elective Courses Section.

Field Paper

At the end of the second year, each student must utilize the research skills learned during the first two years to start developing one field paper. This paper must be completed by the end of the student's third year and students will be enrolled in Econ 699 for this research. The field paper requirement is meant to encourage students to develop research questions early in the program and work closely with the faculty. The students' field paper advisors will also serve as mentors at an early stage in their graduate school career. They will guide students on choosing appropriate dissertation committee members and provide in-depth guidance on acquiring the skills necessary to achieve expertise in their respective fields." Combined with coursework, a

field paper allows students to develop a specialty in a particular research area. Students should pursue an idea at a level beyond that of a regular course paper. If the idea works out, it can become a part of the dissertation and may also be submitted to a scholarly journal for review and publication.

All students are required to pass an oral presentation of their field paper research. The presentation will be made to the faculty during the fall semester of the student's third year. Following the oral presentation, the faculty will discuss the student's work and decide with the faculty advisor whether the student passes this presentation. A 'pass' grade should be interpreted to mean that the student has identified a feasible research project; that the research has the potential to make a contribution to the literature and further our knowledge of the subject; and that the student is progressing sufficiently towards the final paper which will be due in the spring. Students whose research is not deemed of high enough quality by the faculty will receive an 'unsatisfactory' grade for the research class. Students who fail the field paper presentation are given one additional semester to successfully pass. Students who do not pass a second time will be dismissed from the PhD program. The final version of the field paper is due at the end of the Spring semester of the student's third year. The faculty advisor will assign a pass or fail grade for the paper.

Guidelines and Timing for the Field Paper

Second year, spring semester	 Student thinks about a topic for the Field Paper Student finds a Field Paper Advisor There is no expectation that the Field Paper Advisor will also be involved in the dissertation (though it might be likely) There is no expectation that the Field Paper will be part
	 of the dissertation. Whether the Field Paper becomes a dissertation chapter or not is decided by the student and the dissertation chair at the appropriate time Student informs DGS of any problems in the process and DGS suggests solutions The DGS may try to "broker" an agreement between the student and suitable faculty If this fails, the DGS has the authority to assign faculty or him/herself as the Field Paper Advisor for the student
Second year, summer	Student works on Field Paper under supervision of Field Paper Advisor
Third year, October/November	 DGS schedules oral presentations of Field Papers Students must pass their presentation in order to receive a 'satisfactory' grade in Econ599R

Third year,	Field Paper is due to Field Paper Advisor and DGS
• Students must pass their paper in order to receive 'satisfactory' grade in Econ 699R	
	• Students who receive a 'unsatisfactory' grade for their field paper (Third year, Spring semester) are given one additional opportunity to successfully pass in the subsequent summer term (Third year, Summer term). The program will recommend the dismissal of students who do not pass this second time."

Fifth Year Job Market Presentation

Students are expected to give a job market presentation to all faculty and graduate students in the fall of their fifth year, just prior to the time they will enter the job market. This presentation will provide the students with practice in presenting their research to a wide audience.

Annual Assessment

Graduate students are required to complete an Annual Activity Report, which serves as a basis for evaluating students' progress. This allows the DGS and faculty advisors to monitor students' progress, identify any barriers to graduation, and chart a path for completion.

The following criteria may be used for annual student assessment:

- 1. Coursework
- 2. Core Exam results
- 3. Field Paper requirement progress
- 4. Progress on dissertation
- 5. RA and/or TA performance
- 6. Participation in discussion lunches and seminars
- 7. Conference presentations and attendance
- 8. Publications and submissions to journals
- 9. Awards/Honors
- 10. External or internal funding/fellowships
- 11. Application for use of PDS funds from the LGS

Each semester, the DGS will consult the faculty advising 3rd year papers and doctoral dissertations about the progress of their students. The DGS will then meet with each graduate student individually for a short 'check-in' meeting. The DGS will take this opportunity to address any issue regarding their progress (as communicated by their advisors), academic performance, and collegiality. For students who are identified by their advisors and the DGS of not performing at satisfactory levels, a letter summarizing their performance will be issued by the DGS at the end of the corresponding semester. The letter may also contain expectations and goals for the upcoming semester. Failure to make satisfactory progress in the next semester or term as outlined in the letter may result in termination from the program. Standards for academic progress are listed in the LGS Handbook at https://www.gs.emory.edu/academics/policies-progress/index.html.

Graduate Student Awards of Excellence

We have established two awards of excellence: the Graduate Student Research Award of Excellence and the Graduate Student Teaching Award of Excellence, with support from the LGS and the Department. Award recipients will be chosen by the Graduate Program Committee based on the Annual Activity Reports and nomination from the faculty. These annual awards allow us to recognize students' accomplishments at our annual department banquet in the spring.

Grading

The symbols A, A-, B+, B, B-, C, F, W, WF, S, U, WU, P, I, and AUD are used in the LGS to indicate the following:

Grade	Meaning	Quality Points
A	Superior Work	4.0
A-		3.7
B+		3.3
В	Satisfactory	3.0
B-		2.7
С	Marginal	2.0
F	Failing	0.0
S	Satisfactory*	0.0
U	Unsatisfactory*	0.0
W	Withdrawal without penalty*	0.0
WF	Withdrawal while failing	0.0
WU	Withdrawal while performing unsatisfactorily*	0.0
P	In progress*	0.0
I	Incomplete*	0.0
AUD	Audit*	0.0

^{*} These grades are not included in the calculation of a student's grade point average.

For students taking graduate-level courses (500-level and above), the grades A and B may only be modified as A-, B+, B-.

With few exceptions, courses should be taken for letter grade. A student may be allowed to take coursework outside the program or division of concentration on an S/U (satisfactory/unsatisfactory) basis. All other courses should be taken for letter grade. Students should consult with the DGS or advisors to determine whether this S/U option is allowed within the program and what restrictions have been placed upon its use. No residence or course credit is allowed for an F, W, WF, WU, P, or I.

The following two grade designations are tentative:

- 1. An I notation (incomplete) is appropriate when a student, due to illness or some other unexpected circumstance, fails to complete all requirements for a course.
- 2. A P notation (in progress) is appropriate when a course, seminar, or research activity is intended to last more than one semester. The notation P remains until the final grade is given. The P grade is NOT a substitute for an incomplete.

After a grade of I is assigned, if the work is not completed within one calendar year, the LGS will change the grade from I to F. To change the grade from an F, the instructor must make a request to the Graduate School, citing compelling reasons for the grade change. Only the Graduate School can then change this F. A student must complete all incomplete (I) and/or in progress (P) work prior to proceeding to candidacy.

See the Laney Graduate School Handbook for rules on grading: https://www.gs.emory.edu/academics/policies-progress/index.html

Student Assessment

All PhD students are subject to the requirements of the Laney Graduate School. The LGS requirements for a PhD can be found in the Laney Graduate School Handbook (http://www.gs.emory.edu/academics/policies-progress/index.html). All students should be familiar with these requirements. As a graduate student at the University, you should also be aware of general Emory University student policies and the LGS Honor Code.

Adequate Progress

The Laney Graduate School sets the minimum standards a student must meet for satisfactory academic performance. These standards are listed in the LGS Handbook at http://www.gs.emory.edu/academics/policies-progress/index.html. Any student who fails to meet these requirements will be placed on probation by the Laney Graduate School and may lose University funding.

In addition to these basic requirements, students must also satisfy economics program requirements to show adequate progress.

Academic Performance

The Laney Graduate School sets the minimum standards a student must meet for satisfactory academic performance. Programs may establish more stringent standards. The Laney Graduate School defines unsatisfactory academic performance as follows:

- A GPA in any semester of less than 2.7 OR
- Receipt of a grade of F or U in any course OR
- Receipt of two or more incompletes in a semester

A student whose academic performance is deemed unsatisfactory will be placed on probation for one semester. During the probationary semester, the student must receive no failing grades, must reduce the number of incompletes on his or her record to 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 the LGS. A student who fails to meet the above conditions will be placed on probation for a second semester. The LGS will terminate a student who merits a third consecutive probationary semester unless the program provides written justification for the student's continuation and the LGS grants approval.

Any student who meets the conditions of probation described above will be reinstated to good standing. The reinstatement happens automatically. The Director of Graduate Studies should discuss with the student the terms and conditions of probation and of reinstatement to good standing.

In addition to the above minimum standards, students must satisfy all economics program requirements as stated in this document to maintain satisfactory academic performance within the Economics PhD Program. Students who do not satisfy economics program requirements will be suspended even if they are in compliance with the LGS minimum standards.

Due Progress

A student will be considered to be making due progress toward the degree if she or he is in good standing and meets one of the following conditions:

- The student maintains through the academic year a minimum registration in the fall or spring semester of at least nine semester hours (9 hours for summer) in which a grade of P, S, I, or B- or better is earned
- For students in tuition-paid status, graduate residence will meet the registration requirement
- The student is within an officially awarded extension period and meets the registration requirement stated above
- The student has been granted an officially awarded leave of absence. The student should understand, however, that loan and federal agencies might not recognize a leave of absence as grounds for deferment

Grievance Policy

Students who have a grievance related to some aspect of their program in the Economics Department should report it to the Director of Graduate Studies (DGS). The student should describe the grievance and relevant details in a letter addressed 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 Director will bring the grievance to the attention of the existing Graduate Program Committee comprised of at least three faculty members. The committee will review the grievance and propose an appropriate response. If it is impossible to resolve the grievance within this committee or within the framework of the Economics Department administrative structure, the Director 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. Complaints about the DGS should be brought directly to the Senior Associate Dean of the Laney Graduate School.

Grade Appeals

Students who believe that an assigned grade is incorrect should first discuss the issue with the instructor. Students who do not think the problem has been resolved in this manner should address their concern to the Director of Graduate Studies, who will seek to resolve the matter with the instructor and the student. Consistent with principles of academic freedom, responsibility for

evaluation of a student's work rests with the course instructor. Use of this procedure for resolution of a grade dispute will not prejudice in any way a student's rights under the LGS or university student grievance procedures.

Leave of Absence

A student in good standing who has completed all incomplete work may be granted two one-year leaves of absence upon recommendation of the student's program and approval of the Dean. The student must demonstrate that during this period he or she must interrupt progress toward the degree. The student should be aware that the university will not certify to loan officers or government agencies that a student on leave of absence is in residence or actively pursuing a course of study.

Leaves of absence are not to be used to resolve academic difficulties, reconsider continuation in graduate study, or complete incomplete work. Rather, this policy is intended to allow students to step out of academic work to take advantage of a unique professional opportunity, deal with short-term disabilities, or meet competing responsibilities of a nature that preclude meaningful work toward the degree.

Students must fill out and submit a leave of absence request form to the Director of Graduate Studies before the end of the semester prior to the leave of absence. This leave must be reapplied for and approved at the end of one academic year if the student wishes to take a second year of leave. To return to the Laney Graduate School after a leave of absence, the student should request readmission at least 30 days prior to the beginning of the term in which he or she wishes to return by filling out the readmission application and submitting it to the Graduate Program Coordinator.

Pregnancy, childbirth, and childcare are handled under a different policy. For the Parental Arrangement Policy, see https://www.gs.emory.edu/academics/policies-progress/parental-arrangement.html.

Writing a PhD Dissertation in Economics

What is a PhD Dissertation in Economics?

The PhD Dissertation in Economics is a collection of potentially publishable research papers. Typically, a PhD dissertation consists of three related essays. One of the essays can be based on the field paper written to satisfy the field requirement. The three-essay model is common, but is not a requirement. If approved by the advisor, the dissertation may consist of one or two broad and substantial essays. Students are highly encouraged to submit one or more essays to a scholarly journal for publication as this helps your job market prospects.

Advising

During the first year, the students will be advised and mentored by the DGS. Starting in the

second year, each student is expected to find a faculty member with mutual interests for advising and mentorship. This mentoring relationship will continue until the student settles on a dissertation topic, completes the field paper, and has a successful proposal. The PhD dissertation committee is formally selected at the dissertation proposal.

Dissertation Committee

A dissertation committee is a committee that supervises a student's dissertation. This committee consists of a main advisor and two or more committee members. The committee members meet with the graduate student, read the dissertation, and make suggestions for changes and improvements. They must also be present at the defense in person or via synchronous remote access.

The committee composition is approved by economics faculty at the dissertation proposal. The Chair and at least two other committee members must be tenured or tenure-track LGS Graduate Faculty. Faculty outside Emory are occasionally permitted to be on the committee if there is a strong justification.

The Dissertation Committee must be formed and approved by the department and Laney Graduate School no later than March 15 of the fourth year. 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's dissertation committee form is approved.

Dissertation Proposal

In order to complete a PhD dissertation, students first need to write and defend a dissertation proposal. The dissertation proposal must be presented in a seminar to economics faculty and graduate students in relevant focus area(s).

After completing the requirements for Candidacy, the dissertation proposal is scheduled on an individual basis during the regular academic year after consultation with the student's advisor(s) and the DGS. The dissertation committee is formally selected at the dissertation proposal. Once approval is given by the advisors and DGS, the Graduate Program Coordinator will schedule the proposal. An electronic copy of the dissertation proposal must be submitted to the Graduate Program Coordinator fourteen days prior to the date of the dissertation proposal so that it can be circulated to all faculty members.

After the presentation, faculty advisors and other economics faculty remain to evaluate the dissertation proposal and approve the committee. After a successful proposal, the committee is responsible for advising the student until the completion of the PhD dissertation.

Some of the material in the proposal will naturally follow from the field paper. Other material will be suggestive. In evaluating dissertation proposals, the faculty asks the following questions:

- Is there a dissertation idea here? Is it sufficiently important and novel?
- Is the student capable of executing it? Does the student possess the tools needed for

properly addressing the question?

• Who should be on the dissertation committee?

The proposal should convince the faculty that the question is scientifically interesting, and that the student is likely to be able to answer it in a manner consistent with the profession's standards. Important constructive comments should not be viewed as a negative. The proposal defense should be an academically-constructive process, rather than a presentation of work that is nearly completed.

It is not the length of the paper that counts, but the novelty of ideas and techniques. After all of the comments and suggestions are made at the proposal, the dissertation must be written under the supervision of the main advisor and with the feedback of the committee members and other faculty. Students are responsible for regularly contacting the advisors and seeking advice when needed.

Note that LGS has very strict guidelines regarding the formatting of the dissertation. For the requisite guidelines, see https://www.gs.emory.edu/academics/completion/index.html.

Students who receive a 'unsatisfactory' grade for their proposal are given one additional opportunity to successfully pass their dissertation proposal in the subsequent semester or term. The program will recommend the dismissal of students who do not pass this second time.

Dissertation Defense

The dissertation defense is an important final step towards completion of the PhD dissertation. It is a formal meeting on campus with all committee members present in person or via conferencing. It is open to all tenured and tenure-track economics faculty. After the defense, the committee evaluates the PhD dissertation and communicates to the student all the required changes. The final dissertation must be approved by all committee members. The student must receive permission from the committee to schedule the defense. Once permission is obtained, students are responsible for coordinating a mutually agreeable date with all committee members. This date, as well as a summary and electronic copy of the dissertation, should be submitted to the Graduate Program Coordinator for distribution fourteen days prior to the defense. A print copy of the dissertation will be made available upon request.

When a student submits a completed dissertation, the membership of the dissertation committee must match the members listed on the most recent dissertation committee form on file with the Laney Graduate School. For information on Laney's requirements on completing the degree, see http://www.gs.emory.edu/academics/completion/index.html.

Policy on Dissertation Co-authorship

Students must demonstrate mastery of research methods through independent work. This will most easily be achieved through single-authorship of the essays in the dissertation. We recognize that co-authorship is often desired or necessary and as such, the following guidelines must be followed:

• If two or more essays in the dissertation are co-authored, written justification and

approval is required.

• Dissertation co-authorship with other Ph.D. students is usually not allowed. Under extraordinary circumstances, co-authorship with another Ph.D. student can be permitted, although the essay cannot count for more than one dissertation. Any such arrangement must be justified and approved. However, we do encourage students to co-author and submit papers to journals independently of the dissertation work.

Justification: Acceptable justifications for co-authorship include, but are not limited to: access to proprietary data; giving credit to a co-author for his or her research idea; or work completed as part of a research team.

Approval: Approval for co-authorship arrangements must be obtained in writing from the student's main advisor and the Director of Graduate Studies.

Co-authorship arrangements and justification approvals should be made *prior* to the initiation of the research project.

When considering co-authoring dissertation work, we also advise the following:

- Co-authorship with the student's main advisor should be limited to at most one essay. The rationale behind this is that co-authoring with the advisor weakens the job market signal on the independent ability of the candidate.
- Co-authorship with dissertation committee members or other economists is fine. However, students should be aware of the weakened signal that such co-authorship may send to the job market, particularly if there are multiple co-authored papers with more senior economists.

Degree Completion

If you are approaching the end of your degree program, there are several forms you need to complete in order to receive your degree and some important guidelines, instructions, and checklists you should refer to as you prepare your dissertation for submission. You may download all of the necessary information and forms from the LGS website at http://www.gs.emory.edu/academics/completion/index.html.

Timeline for Graduation

We recognize that students may set different career goals or follow different paths during their PhD study. The following is the suggested plan for completing a PhD in 5 years. Students may complete the degree sooner or later, as advised by faculty.

Year 1	Activity	Notes
August and Fall	Core classes	
Semester		

Spring Semester	Core classes	At the end of the semester, if cumulative GPA < 2.7 student will be dismissed from the program.
May and June	Core exams (3 exams spaced at 2- or 3-week intervals)	Students must pass the core exams and first year mastery requirement. Students will retake failed exams in August.
August	Deadline for core exams	Students must pass the core exam and first year mastery requirement.
Year 2		
Fall Semester	Classes (Econ 622 and 2 electives)	
Spring Semester	Classes (3 electives)	
Summer	Field Paper work	
Year 3		
Fall Semester	Remaining electives; Research/Dissertation work	
October/ November	Oral presentations of field paper given.	Students with unacceptable presentations are given a grade of 'unsatisfactory' for the research course, and will be placed on academic probation in the subsequent Spring semester.
Spring Semester	Written field paper due; Dissertation proposal work begins	Students who failed the first oral field paper presentation do their second presentation. If unsuccessful, the program will recommend their dismissal. All other students must pass field paper requirement. Unsuccessful students are given a grade of 'unsatisfactory' for the research course and will be placed on academic probation in the subsequent Summer term.
Summer	Dissertation proposal work	Students who failed the field paper requirement in the previous Spring semester submit their revised version by the end of the Summer term. The program will recommend the dismissal of students who fail this second chance.
Years 4 and 5		
Fall of 4th year	Dissertation proposal (may be completed earlier, must be completed by March 15 of the 4th year)	If unsuccessful, the student is given a grade of 'unsatisfactory' for the research course that semester and will be placed on academic probation in the subsequent semester or term. The program will recommend the dismissal of students who failed to pass their second proposal by the end of the subsequent semester or term.
Fall of 5th year	Job market paper presentation	

Spring of 5th year	Dissertation defense	
May of 5th year	Graduation	

Evidence suggests that economics graduate students take 5-6 years to obtain their PhD. The sixth year in the program allows some students to complete more papers and be better placed on the job market. For others, prolonged stay does not significantly add to research output and job market potential, so these students are encouraged to complete their dissertations without delay. Students may not complete the PhD Program until the fourth year.

The Graduate Program in economics continues to encourage students to work closely with faculty immediately after taking the core exams at the end of the first year. The faculty believes that these collaborations will aid students in learning the craft of research more quickly, thus accelerating progress through the PhD program.

Earning a Master's Degree

Students admitted to the doctoral program can receive a master's degree in one of two ways: 1) Students in good standing in the PhD program in economics may elect to earn an interim master's degree. Students become eligible once they have entered doctoral candidacy; or 2) Under extraordinary circumstances, a terminal master's degree may be earned by students who leave the program before completing the requirements for the PhD, either under their own volition or as a result of lack of good academic progress. Students who have completed all first year coursework with an average GPA of 2.7 or higher but have not passed the first year mastery requirement may elect to earn a terminal Master's degree at the end of the fall semester of their second year through the successful completion of a minimum of 30 credit hours of approved coursework. These courses must be taken for a letter grade and students must maintain an average GPA of 2.7. Students beyond the first year seeking to earn a terminal Master's may also satisfy the Master's degree requirement with a minimum of 30 credit hours of approved coursework. These students may also elect to write a master's thesis, submitted in accordance with the rules specified in the Laney Graduate School Handbook.

English Language Support Program (ELSP)

All degree-seeking students entering the Laney Graduate School whose first language is not English are required to take the Emory-specific English Language Assessment before registering for classes. Results of the assessment are used to place students who need English language support in one or more classes for the academic year. Students must complete the courses in their particular areas of need during the first and, if necessary, second academic year. These classes do not count towards the coursework requirements for the PhD.

For information on ELSP assessment of oral and writing skills, testing dates, ELSP courses, and writing resources visit www.gs.emory.edu/academics/elsp/index.html. Initial and Post Oral Assessment scores and recommendations for teaching will be mailed to the students and to the DGS. They will be used by the DGS to recommend additional ELSP courses and make research and teaching (RATA) assignments.

Teaching Assistant Training and Teaching Opportunity Program (TATTO)

It is required that PhD students have teaching experience prior to graduation. The LGS and Economics Department offer a sequence of courses as well as hands-on experience to ensure that students receive proper training for teaching. These required courses are:

- TATTO 600: LGS Workshop taken in the August preceding the second year.
- ECON 693: Teaching Economics. Taken in Second Year.
- TATTO 605: Teaching Assistantship. Taken when TA duties are assigned.
- TATTO 610: Teaching Associateship. Taken once, in the fourth or fifth year, when students are the instructor of record. A second semester of a teaching associateship is recommended but not mandatory, and will be determined on an individual basis.

This program prepares students who want to teach in colleges and universities, but also aims to increase communication skills that are useful in academia, government, and industry jobs.

To learn more about the LGS's TATTO requirements, please see http://www.gs.emory.edu/professional-development/teaching/index.html.

ECON 693 (Teaching Economics) is a course in the pedagogy of teaching economics that covers a variety of topics on planning and executing a course and dealing with classroom issues. In particular, students will learn how to identify course objectives, design a syllabus, select textbooks, design and grade exams, meet instructor obligations, interpret student evaluations, and handle students inside and outside the classroom. Policy issues related to honor code violations and students with special needs are also covered in this course. To improve communication skills, students are videotaped in mock presentations and the videos are viewed in class, soliciting nonthreatening feedback from peers. Invited guests expose the students to the challenge of teaching probability, statistics, and other mathematically intensive subjects as well as classroom experiments and supplement teaching.

The third segment of training starts in the fall of the third year when students take TATTO 605 and are also assigned to be TAs. It involves mentoring students as they practice the teaching skills learned in ECON 693. Introduction to classroom technologies, observation and feedback, visiting experienced faculty and discussing the visit with the mentor, and setting goals and assessing achievements are all included in this segment. The mentor will regularly hold one-on-one or group discussions with TAs to address issues as they arise. After completing this course, the faculty who mentored the students in ECON 693 and TATTO 605 will determine whether a student is ready to teach an independent course. Students who fail this assessment will repeat the last two parts so they can overcome weaknesses.

The fourth segment involves mentoring and fine-tuning as the students teach their first course (normally in the fourth year). Students enroll in TATTO 610 and meet with their mentors to discuss issues that arise in the classroom and how to handle them. The broader goals of teaching, such as the development of human capacity and designing more advanced courses, will also be covered in this segment.

Research and Teaching Assistantships

RA/TA Assignments

The DGS makes RA and TA assignments every semester based on the evaluations and requests by both students and faculty. The time commitment for RA or TA assignments is 10 hours per week in total, during the official semester calendar (about 15 weeks). The 10 hours of RA/TA responsibilities may be assigned to one faculty member or split between two faculty members (5 hours per week each) based on department needs. First year students are exempt from TA/RA responsibilities. Every effort is made to accommodate specific requests for both students and faculty, but not every request can be met. Often, assignments are based on course schedule, course assignments, and students' progress in the program.

TA assignments officially end after the final exam for a course(s). RA assignments officially end on the last day of graduate classes and do not extend into exam week. If a student has worked more than their assigned hours per week over the course of the semester, the instructor can discharge a student from their RA/TA assignments before these end dates.

Typical Research Assistant (RA) and Teaching Assistant (TA) Progression

Typical Progression:

- Year 1: No duties.
- Year 2: Students are assigned as a research assistant in one semester and as a teaching assistant in the other semester.
- Year 3: Students are assigned as a research assistant in one semester and as a teaching assistant in the other semester.
- Year 4: Students may teach their own class in one semester and serve as a research assistant in the other.
- Year 5: Students may teach their own class in one semester and serve as a research assistant in the other.

Students may provide up to 10 extra hours per week of RA or TA services (paid) for another faculty member in the Economics department or another department elsewhere. Students should only seek these opportunities outside of the department if they have full RA and TA assignment in the department, and the proposed paid extra hours furthers the student's education.

Federal Reserve Bank Research of Atlanta Research Opportunities

Students specializing in Macroeconomics may have the opportunity to train at the Federal Reserve Bank of Atlanta (FRB). Students may work with FRB researchers to receive training and experience related to their dissertation work. Students working at the FRB will have the opportunity to earn additional academic year and summer salary support provided by the FRB. Students may work up to 10 hours per week, or up to 20 hours per week with permission of their advisor, DGS, and the LGS Dean.

RA/TA Responsibilities

Graduate students must take their TA/RA responsibilities seriously. Reputation is a significant asset that students use when going on the job market and advancing their careers. Many of these

assignments can lead to strong relationships with faculty members who can provide valuable references for the student. RA assignments may lead to joint work with faculty and allow a student to become an expert in a field. RA/TA assignments are announced about a month before the start of classes. Students are responsible for making the first contact with the faculty regarding their assignments at least two weeks prior to the first day of classes.

RA/TA Evaluations

At the conclusion of each semester, students and faculty will be asked to report on their RA/TA duties from the semester. Evaluation forms will be kept confidential by the Graduate Program Coordinator and DGS. At this time, students and faculty will also request assignments for the following semester.

Teaching Your Own Course

Students may begin teaching their own courses as part of TATTO 610: Teaching Associateship. These responsibilities will typically begin with teaching assignments in the fourth year. Conditional on strong prior teaching experience and approval by the DGS, a student may be permitted to teach earlier. All teaching assignments will be monitored by the faculty TATTO mentors. Student evaluations will be conducted at the end of the semester.

Most students teach an introductory level undergraduate Economics course, although students in their fourth or fifth year may be able to teach a higher level undergraduate course if they prefer. Student preferences for teaching certain classes are taken into consideration when teaching assignments are made, but the ultimate determination rests with the department and is based on departmental need. Students will be notified of their teaching assignment at least two months in advance in order to give them enough time to prepare.

Taking Responsibility for Courses

Teaching is a very important duty and is not to be taken lightly. As an instructor, we expect each of you to invest a significant amount of effort into teaching and communicating with students.

You must have time to promptly answer all e-mails from students and hold regular office hours. Classes should not be cancelled. Only in case of medical emergencies can substitutes be found. The summer courses have a shorter duration, but they are just as important, rigorous, and serious as classes during the academic year. We expect you to uphold the reputation of the department and the graduate program. Prior to being absent from teaching a class, you must seek approval from the Director of Undergraduate Studies for the absence and you must also arrange for a proxy instructor.

Course Coverage

The TATTO training should equip you with the skills necessary for choosing a textbook, selecting topics to be covered, and writing the course syllabus. Please contact the Director of Graduate Studies if you have questions about your teaching. Topical coverage should be standard in most introductory and intermediate courses.

Grading

Students expect "fair grading," which is very different from generous grading. The grade distribution should be consistent with the Economics Department's grading regulations and practices. The Graduate Program Coordinator has information on all grades assigned in the Economics Department, sorted by course level. Summary statistics are distributed to all instructors every semester to provide grade distribution guidelines.

III. Additional Program Information

Research Seminars

The Department has a number of ongoing research seminars that bring in scholars from other institutions for presentations and meetings with students and faculty. At seminars, students learn novel theories and techniques, engage in fruitful discussions, network, and promote the reputation of the department by contributing to other scholars' research.

Research Seminars in Atlanta

Our graduate students and faculty are encouraged to attend the weekly seminar series and collaborate with researchers at the Federal Reserve Bank of Atlanta, Georgia Tech, and Georgia State University.

Economics 791G/H: Dissertation Workshop

This is a required course for all second and third year graduate students. Students take it on a Satisfactory/Unsatisfactory basis. Failure to participate will result in a grade of "U." Students must complete four semesters of a Dissertation Workshop with a grade of "S" in order to complete the PhD. Students are strongly encouraged to attend all possible research seminars beyond those they receive credit for.

The department's seminar calendar can be accessed online at https://economics.emory.edu/news/seminar-directory-page.html.

Lunch Workshops

The Economics Department and the Laney Graduate School support regular lunch workshops in macroeconomics, econometrics, health/microeconomics, pedagogy, and professionalization. These lunch gatherings create an opportunity for students to share research ideas and receive comments and suggestions on their ongoing research projects. Students entering the job market find this to be a valuable opportunity to practice their job talks. Each student is expected to be an active member of the lunch group.

Student-led workshops allow students to present their preliminary research to faculty and students with similar research interests. The supportive and casual atmosphere of the lunch workshops encourage students to engage in discussions; even first-year graduate students can

present their research ideas. Since the implementation of these workshops, we have seen a decrease in the amount of time it takes a student to successfully complete a dissertation proposal. Dissertation proposals are typically successfully defended by students in their third or fourth year in the program.

To further support our PhD students as they prepare to teach undergraduate courses at Emory and elsewhere, the Economics Department faculty organizes a pedagogy workshop for graduate students. The workshop complements the TATTO training as it focuses more on philosophical and content issues rather than stylistic issues.

The Professionalization Workshop offers an opportunity for graduate students to learn about skills that are important for their professional lives as economists, but which are not systematically covered in graduate courses. Topics include data acquisition, paper writing, conference presentations, writing referee reports, job market preparation, and grant writing.

Grant Writing

We believe that grant writing is a critical skill for economics PhD students to learn. As such, we strongly encourage our graduate students to attend grant writing workshops given by Emory University. This is a valuable opportunity, especially when supplemented with more focused internal grant writing training in the Economics Department. We provide this support to PhD students and aid them in locating and applying for pertinent grants. This topic is also addressed in the Professionalization Workshop.

Conference Attendance

The Economics Program and the Laney Graduate School are committed to supporting your research and publications. One of the steps toward publication is presentation of papers or participating as a discussant at conferences. Conferences are also important venues for networking and meeting other scholars in the field.

The LGS makes some funds available for conference travel as part of the Professional Development Support. Please visit http://www.gs.emory.edu/professional-development/index.html to read about relevant policies and to access the application site. Students are responsible for seeking approval from their advisor and DGS before they submit the request to the LGS.

Career Preparation and Placement

Career preparation and job placement have historically been strengths of our department. Because of our size, we are able to offer personalized attention to our graduate students from an early stage in their Emory careers. Students are paired with faculty advisors with whom they are able to develop close working relationships. The faculty members often work with these students one-on-one, offering opportunities to co-author publications, offering guidance for the completion of the dissertation, and providing career advice.

Students are also given the opportunity to enhance their communication skills through the

TATTO program and often teach their own courses. Because economics is a popular undergraduate major, graduate students often find their TA assignments for large classes offer plentiful opportunities to observe faculty teachers and interact with students. Through this process, our students often decide between the academic and industry job markets and more narrowly target employers during their job search.

Because the economics job market has been streamlined by the American Economic Association (first-round interviews are held at the annual American Economic Association Meetings in January), the timeline and process for submitting applications has also become standardized. The procedures and experiences of our students who have been through the job market are generally covered in lunch meetings held at the beginning and end of the academic year. We offer guidance in preparation of the application, job market papers, and interviews. Several faculty members participate in mock interviews for our students in advance of the job market and the program has collected a variety of handouts and information sheets to help students effectively enter the job market.

When possible, we allow fourth year students to attend the department faculty-recruitment interviews to see how job market interviews are conducted.

Student Information

Address Changes/Contact Information

It is important that students maintain accurate contact information in the University's OPUS system. Any changes to address, phone, or email contacts should be made immediately by logging into OPUS at www.opus.emory.edu. Additionally, international students should always maintain a local physical address that is not in the department. They are also required to immediately notify ISSP of any change in address.

Holiday Breaks/University Calendar

The University calendars may be found at https://registrar.emory.edu/records-transcripts/ferpa.html

Honor Code

The LGS Honor Code is intended to reinforce the high standards and importance that we place upon academic integrity in our community. We require all students to sign an acknowledgement of and commitment to abiding by this code before they may begin classes. The honor code may be found at http://www.gs.emory.edu/academics/policies-progress/conduct.html.

Family Educational Rights and Privacy Act (FERPA)

In an attempt to assist in the application of FERPA and the University's Policy on the Confidentiality and Release of Information about Students, the following is offered as abbreviated guidelines for use by offices of the University.

The general rule is that no information, applications, forms, letters, records, transcripts, etc., may be released, whether in writing or orally, without prior written consent, dated and signed by the student, specifying the records to be released, the reasons for such release, and to whom the records are to be released.

Records shall be released to comply with a subpoena or court order only with the consent and advice of the University's legal counsel. If you receive a subpoena, court order, or similar document, contact the Office of General Counsel at 404-727-6011 immediately.

Information, defined by the University as "directory information," may be released without prior written consent from the student provided the student has not filed a "release no information" request with the University. A list of the students requesting "no release" is updated and circulated each term by the Office of the Registrar. (Be sure to check this list carefully before releasing any information.) More information about FERPA can be found at http://registrar.emory.edu/Students/FERPA/.

Preparation for First-year Courses

No specific preparation beyond the undergraduate degree is needed to begin the first-year courses. If you wish to purchase and review the course textbooks prior to the beginning of the semester, a list will be distributed upon request.

Arrival Time for Incoming Students

The department offers the ECON 526: Quantitative Methods I in August preceding the beginning of the first semester and Econ 626: Quantitative Methods II during the first part of the Fall semester of the first year. These are required courses but students may request a waiver of Econ 526 only from the DGS. You should plan on arriving in Atlanta in time for the first day of class. Fall semester courses typically begin the Wednesday before Labor Day.

Laney Graduate School Orientation

The LGS will send an orientation packet via e-mail, containing dates for the orientation, directions to campus, and instructions on how to activate your Emory e-mail address.

ELSP Assessment

The ELSP department will contact each non-native English speaker with assessment information. The assessment will take place during orientation, but will not conflict with the Quantitative Methods course.

Class Registration

The Graduate Program Coordinator will register you for all classes. You are responsible for the payment of any registration fees or bursar charges. These must be paid before your registration will be complete.

Final Transcripts

Official final transcripts from all previous post-secondary academic work must be submitted to the LGS upon your arrival to Emory.

Parking

Parking at Emory may be obtained through registration with the Parking Office: http://transportation.emory.edu/parking/index.html. All Emory students and employees are encouraged to take commute alternatives whenever possible.

Computers and Networking

Graduate students have access to departmental computers. If you would, however, like to bring your own personal laptop to campus, wireless internet is available.

Department Location

The Economics Department is in the Atlanta campus of Emory University.

Check-in

Upon arrival to campus, all new students should check in with the Graduate Program Coordinator.

Economics Department Resources

Graduate Student Office Space

The economics department provides space for graduate students to study, conduct research, and work as research assistants and teaching assistants. Office sharing should facilitate collaboration and increase opportunities for all. Desktop computers are available in the common graduate student area for use. Policies regarding the appropriate use of office space by graduate students in the economics department will be given to you upon arrival. Violation of these guidelines will result in the revocation of office privileges.

University Resources

Professional Development Support for Graduate Students (PDS)

The Laney Graduate School is committed to helping Emory graduate students enhance their professional development and complete their degrees in a timely fashion. We recognize that from time to time students may require funding to augment the stipend they already receive and support specific categories of graduate student professional development. These funds are awarded on the basis of two general considerations: the merit of the proposed activity and the importance of the activity to the student's program of study. Your advisor and DGS are in the best position to judge the merit of the proposal and whether it contributes to your education. Therefore, your advisor and DGS will make the primary decision about whether a graduate student request should be supported. Awards will be made in three funding categories: 1) Conference participation; 2) Supplementary training not available at Emory, including language acquisition; and 3) Research. For more information and forms see https://www.gs.emory.edu/professional-development/index.html

Writing Center

The Writing Center provides tutors who offer a wide range of help with writing, including idea development and clarification, brainstorming, organization, thesis, style, wording, and revisions. Visit http://writingcenter.emory.edu/ for more information.

Emory University Student Health and Counseling Center

Emory University Health Services provides a wide range of comprehensive services, including health matters, counseling, and health promotion. Health Services is located at 1525 Clifton Road. They can be reached at 404-727-7551. The Counseling Center provides free, confidential counseling and referral for all enrolled students. Individual, group, couple, and family counseling sessions are available. The Counseling Center is located at 1462 Clifton Road, Suite 235 (Second Floor) and is open from 8:30 am–5:00 pm, although counselors are on call in case of emergency. For more information, please see https://studenthealth.emory.edu/.

Housing

The Emory University Office of Residential Life and Housing provides services for students seeking to reside in University housing and links to information about off-campus locations. Visit http://www.emory.edu/housing for more information.

International Students and Scholars Services (ISSS)

The mission of the ISSS is to facilitate global education and cultural exchange at Emory University through services and programs for Emory international students and scholars and to the wider community with whom they interact. ISSS recognizes for itself and for those it serves the importance of acknowledging and affirming values of personal integrity, responsibility, trust, acceptance of diversity, and respect. ISSS creates an educational and cultural bridge between and among Emory international students and scholars, the Emory community, and the broader

community of Atlanta, the state of Georgia, and the United States. The ISSS Office is located in Suite 130 of the North Decatur Building. International students are required to check in with and maintain contact with the ISSS office during their stay at Emory. http://www.emory.edu/ISSS/

Office of Racial and Cultural Engagement

The Office of Racial and Cultural Engagement provides programs and services to enhance success and promote culturally-diverse activities that create an appreciation for racial and cultural diversity. They seek to aid in the development of a more pluralistic and welcoming environment for all members of the Emory Community. http://race.emory.edu/.

Office of Lesbian/Gay/Bisexual/Transgender Life

The Office of Lesbian/Gay/Bisexual/Transgender (LGBT) Life is an administrative office within the Division of Campus Life, which offers programs and services designed to improve the campus climate and create an open and welcoming environment for LGBT students and employees. The office is located in the Dobbs University Center, Room 232. http://www.lgbt.emory.edu

Office of the Registrar

The Office of the Registrar maintains official student records and issues all transcripts. Student bills may be paid here. The office is located in the Boisfeuillet Jones Center. http://www.registrar.emory.edu/

Student Accounts and Billing Office

The Student Accounts and Billing Office maintains all student accounts at Emory University. It is located in the Boisfeuillet Jones Center. https://studentaccounts.emory.edu/

Office of Financial Aid

The Office of Financial Aid is responsible for the processing of all federal funds (loans). The office is located in the Boisfeuillet Jones Center. https://studentaid.emory.edu/

OPUS: Online Pathway to University Students

Students may view their student academic records, schedules, contact information, and financial accounts online via OPUS. OPUS can be accessed at http://www.opus.emory.edu.

LGS Student Support Services

Graduate school can be a stressful time on your body and mind. Be sure you are taking care of yourself. Go to Laney Graduate School student support page and the LGS/GDBBS support page

for links to all student support services available to you: http://www.gs.emory.edu/guides/students/support.html

Department of Accessibility Services (DAS)

Emory provides all persons an equal opportunity to participate in and benefit from programs and services afforded to others. The Department of Accessibility Services (DAS) is part of the Office of Equity and Inclusion and 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. DAS 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 DAS and make a request for services. Confidentiality is honored and maintained. http://accessibility.emory.edu/students/index.html

Parental Arrangements Policy

LGS Parental Arrangements Policy is for students with substantial parenting responsibility as a result of childbirth, care of newborn, or a newly adopted child. This policy guarantees PhD students a minimal level of accommodation during the transition of parenthood. For more information on the policy, eligibility requirements, and application procedure, go to this link: https://gs.emory.edu/ includes/documents/sections/handbook/handbook.pdf

Center for Faculty Development and Excellence

The CFDE supports the work of the office of the Vice Provost of Academic Affairs in encouraging faculty development and excellence, particularly through the sponsoring of faculty programs in teaching, writing, research, and institution-building. http://cfde.emory.edu

Other Helpful Resources

Electronic Data Center (EDC)

The EDC, which is part of the Emory Center for Digital Scholarship (ECDS), supports research, teaching, and learning in the social sciences and other disciplines by providing access to numerical data sources. Course materials for students of economics, political science, and sociology are provided, as are more generalized tools for searching, browsing, and analyzing numerical data. Statistical software packages, including R, Stata, SAS, SPSS are available on computer workstations in the EDC. It is located on the third floor of the Woodruff Library. http://guides.main.library.emory.edu/EDC ECON

Emory Libraries

The Emory Library system offers an extensive number of services. Its holdings and access to electronic databases and journals are vast. Emory also belongs to the Georgia Library Catalogs via GALILEO, which allows students to locate resources throughout the state. The librarians on

staff are knowledgeable and helpful. The main library is the Woodruff Library, located just off of the Quad. Students can also have access to the Goizueta Business School Library, which has access to many databases that might prove useful in research. https://libraries.emory.edu/

Computing at Emory

Emory University connects to the internet using high speed Internet2 technology. All students have access to Emory e-mail accounts and to the University's online resources. All buildings on campus are connected to the internet. Students can also access Canvas, a learning management system, as well as library research tools and databases online.

Lighter Side

Social Gatherings Hosted by the Economics Department

- Annual Welcome Party (Early September)
- Annual Holiday Party (Early December)
- Annual Banquet (April)
- Department Picnic and Annual Optimizer Game (mid-April)
- Cinco De Mayo Party (Early May)

The Economics Soccer Team "Optimizers"

The Economics Department has a soccer team consisting of interested faculty, undergraduate and graduate students. Both males and females play on the team. The team practices with pickup games most of the Saturdays and arranges for a few games with other opponents such as the Business School, School of Public Health, Law School, etc... A gathering with food and drink follows each scheduled soccer game. For more information and photos, please visit https://economics.emory.edu/news/optimizers.html.

Information available upon request from the Graduate Program Coordinator or on the LGS website:

- 1. PhD Student Degree Requirements Checklist
- 2. Annual Activity Report
- 3. Preregistration Form
- 4. Cross Registration Application (ARCHE)
- 5. Request for Leave of Absence
- 6. Application for Readmission (LGS)
- 7. Regulations for Readmission (LGS)
- 8. Field Paper Completion Form
- 9. Office of the Registrar Application for Degree
- 10. Instructions for Completing the Application for Degree
- 11. Guidelines for Using the Economics Computer Lab
- 12. Graduate Student Office Space Guidelines
- 13. FERPA Policy

Other information available from the Graduate Program Coordinator or the Economics

Department website (http://economics.emory.edu):

- 1. List of conferences recommended by economics faculty
- 2. List of conferences where graduate students have presented
- 3. First and current job placements of alumni
- 4. Job market preparation advice

Appendix A: Graduate Course Offerings

Econ 600: Microeconomic Theory I

This course covers the advanced treatment of the theories of consumer and producer behavior using multivariate calculus. The course begins by examining the theory of the consumer and extends the classical theory to uncertainty. It then proceeds to examine producer theory. Both sides of the market are then analyzed together in an equilibrium framework. The course concludes by relaxing some of the assumptions of the competitive model.

Econ 601: Microeconomic Theory II

This course is the second part of the core graduate sequence in microeconomic theory. The topics covered include game theory, market structure, and market failure. We begin with a rigorous introduction to game-theoretic modeling techniques. We then apply these techniques to analyze market failures that arise because of market power, externalities, and asymmetry information, and to design mechanisms by which these market failures may be avoided.

Econ 602: Microeconomic Theory III

This course covers the basic concepts and elements of game theory with the emphasis on applying its various analytical tools and solution concepts to a variety of situations. The topics covered are static and dynamic games with complete information; static and dynamic games with incomplete information; and the refinements of equilibrium concepts. In particular, we will study Signaling, Screening, Adverse Selection, Moral Hazard, Repeated Games, Bargaining, Mechanism Design, and Auctions. The course is designed to give you a relatively sophisticated and broad knowledge of game theory related topics in addition to helping further develop your analytical and modeling skills. You will participate in games, which will strengthen your ability to think strategically.

Econ 603: Economic Reasoning

This seminar introduces students to the form of reasoning economists; use in identifying, formulating, and solving applied economic problems. It involves reading and reporting on some of the great articles and parts of books from the past half-century. Each week four to six works are read, reported upon by students, and discussed. The works studied are from most of the major fields of economics, both micro and macro.

Econ 610: Macroeconomic Theory I

You will learn the basic tools of modern macroeconomics that are necessary to read and understand research papers in the field. We will use the approach of Dynamic General Equilibrium Models. To this end, we will spend a lot of time studying terminology and tools but should also be able to look at applications later in the class. This is the first course in the graduate macroeconomics sequence.

Econ 611: Macroeconomic Theory II

The course focuses on the conceptual framework and the models that the majority of modern macroeconomists use. The course attempts to show "life at the frontier," depicting the various directions in which researchers are currently working. The course covers various models economists used to explain business cycles, starting with the Theory of Economic Growth, and the discussion of the topics of Consumption, Investment and Asset Prices. The latter part of the course looks at applications such as Unemployment and the Phillips Curve, Political Economy and Optimal Monetary Policy.

Econ 620: Probability Theory & Statistical Inference

The course covers essentials of probability theory and mathematical statistics. The first part of the course is concerned with random variables, distribution functions, moment generating functions, and limiting distributions. The second part covers the theory of point and interval estimation, hypothesis testing, and inference in the linear model.

Econ 621: Econometric Methods I

This is the central required course in the Econometrics core area, coming after at least one other course covering rigorous statistics and aspects of the linear regression models. Topics may include, general linear models, specification analysis, testing and model evaluation, HAC estimation and inference, GMM techniques, simultaneity and, more generally, endogeneity and IV methods, forecasting, some aspects of limited dependent variables and dynamic models, Monte Carlo and bootstrap resampling techniques, and asymptotic inference as needed.

Econ 622: Econometric Methods II

This is a continuation of the central required course in the Econometrics core area. Topics may include: bootstrapping, limited dependent variables, panel data models, non-linear and generalized least squares, least absolute deviations, quantile regression, numerical optimization, measurement error models, asymptotic tests, linear systems of equations, and nonparametric regression. Prerequisites: Econ 520 and Econ 521 or equivalent as approved by the instructor.

Econ 526: Quantitative Methods I

Economics 526 equips students with the mathematical techniques and understanding needed prior to taking the core Ph.D. sequence in microeconomic theory, macroeconomics, and econometrics. Topics include linear algebra, topology, advanced calculus, and optimization theory.

The objective of the course is to introduce the students to the elements of grant writing both in theory and practice. More specifically, we will start with a short review of historical facts about grant activities and theory of funded research, role of government, and the effect of recent policy changes on research subsidy. Next, we discuss various U.S. and international agencies that fund economics and their respective policies for funding academic research, drawing extensively on the internet. Issues such as selection of topic, matching the topic with funding source, and the reverse process of searching the funding source to identify compatible topics for research are particularly emphasized. At this point students are ready for the applied component of the course. In this part, we start with a comprehensive coverage of Emory University policies regarding sponsored research, support structure, process, and various offices involved. In the final segment of the course the students will be guided to identify relevant funding opportunities in areas of their interest, and go through the process of drafting a proposal. The proposal will be reviewed with the help of various support offices across campus and submitted. The resulting grant proposal project would be a joint work that might also involve the faculty. Depending on lecture topic, various guest lecturers from the University's research offices and funding as well as faculty with strong funding record will be invited to speak to the students.

Econ 693: Teaching Economics

The course consists of twelve sessions. Each session will have readings and or exercises related to teaching economics or, more broadly, issues related to being professional economists. Topics include how to lecture effectively, how to make up tests, how to design a course, and how to use experimental economics in the classroom. Members of the faculty will lead some of the discussions.

Econ 697R: Directed Study

Intensive reading in economics on a topic not covered in a regular course. Students must receive Departmental permission to take this course, from both the faculty supervisor and the Director of Graduate Studies. Students must register for this course for a letter grade.

Econ 699R: Thesis Research

Research and writing for the Master of Arts thesis. Students must receive Departmental permission to take this course, both from the faculty supervisor and from the Director of Graduate Studies. Students must register for this course on an S/U basis only.

Econ 626: Quantitative Methods II

The course focuses on various approaches used in solving finite and infinite horizon dynamic optimization problems frequently encountered in economics. These approaches include calculus of variation, dynamic programming, and optimal control. In each case we will discuss the first and second order (necessary and sufficient) conditions for an optimum and their economic

interpretation. Both constrained and unconstrained optimization problems will be considered. Examples from various fields of economics will be used to illustrate these principles and ideas. Other issues and methods to be discussed include differential equations, phase diagram analysis, dynamical systems, discrete and nonlinear approximations, and simulation methods in economics.

Econ 706: Game Theory

Formal study of interdependent choice. Topics include: Utility theory; basic theory of non-cooperative games; two-person zero sum and nonzero sum games; cooperative games and characteristic functions; the core, solution theory; and repeated games and information. Applications are to economic and political decision making.

Econ 710: Experimental Economics

This course is an introduction to experimental methods in economics. It covers practical techniques for conducting and reporting economic experiments and reviews previous findings and current developments in experimental research. Topics covered include markets, bargaining, games, individual decisions, and consumer behavior. Students learn to design and conduct original experiments.

Econ 711: Monetary/Financial Economics

The impact of monetary policy on the real sector remains the focus of intense debate between macroeconomists. We explore this debate by examining the underlying theoretical models monetary policy is based upon. Of particular interest is the transmission of changes in policy variables to real variables. Is output influenced by money, credit, or both? Other topics will be selected depending on the students' interests.

Econ 720: Topics in Macroeconomics and Finance

This course focuses on a variety of topics that complement the material covered in Econ 510 and 710. The focus tends to be on the behavior of the firm. Topics include investment models (convex adjustment costs, non-convex adjustment costs, inventory), consumption models (real spending, asset pricing), monetary policy (monetary shocks, independence/credibility/transparency), fiscal policy, and financial/real sector interactions (asymmetric information and financing, stock market valuations and investment, the financial accelerator). Other topics may be added depending on student interests.

Econ 721: Advanced Microeconometrics

This course deals with advanced econometric methods for the analysis of models and applications in micro-econometrics. Topics include cross-section and panel data models, limited dependent variables, generalized method of moments, quantile estimation, treatment effect and

program evaluation techniques, semi and nonparametric methods, nonlinear and simultaneous equation models.

Econ 722: Time Series Econometrics

This course covers traditional methods of time series analysis and inference in dynamic models as the starting point. These include ARIMA, distributed lag, dynamic and ARCH models. The course also covers dynamic simultaneous equation and VAR models. Other topics include recent developments in time series econometrics, emphasizing non-stationarity. The ¿Unit root versus trend stationarity; debate will also be discussed, along with co integration method as tools for modeling long-run economic relationships. Basic methodological issues are particularly emphasized.

Econ 723: Topics in Econometrics I

This course explores advanced econometric topics, including dynamic simultaneous equations, limited dependent variables, systems of regression equations, cross-section analysis, model specification, and regressor selection.

Econ 724: Applied Econometrics

This is the third course in a sequence that constitutes the econometrics field in the graduate curriculum. The course focuses on application of time series and panel data/limited dependent variable analyses. This is not a cookbook course to encourage mindless regression running. It rather is a theory based applied course. Students are expected to be comfortable with econometric theory and therefore ready to apply econometric methods to data on a logical and scientifically reasoned fashion.

Econ 725: Introduction to Computer Programming in Economics

This course is an introduction to computer programming using the open-source R language for statistical computing and graphics. The goal is to learn how to write, debug, and maintain efficient computer code for applied work in economics. Throughout the course, a selection of relevant data problems will be used to illustrate the techniques and why they are important for the applied researcher. By the end the student will be up and running, developing computer programs and doing very advanced work in R. Even though we make use of the R language, the principles and techniques apply to most computing languages.

Econ 726: Computational/Empirical Economics

This course covers some of the essential computational methods frequently used in macroeconomics. It is divided into two halves, broadly reflecting our own research interests and expertise. The first part will cover methods for solving representative-agent models and some

topics in time series econometrics. The second part will focus on solving heterogeneous-agent methods. At the end of this course, you will be able to solve and/or estimate most models that are widely used in macroeconomics. Prerequisites: Econ 510 and Econ 511 or equivalent transfer credit as prerequisite.

Econ 727: Topics in Econometrics II

This course explores advanced econometric topics. Topics will be updated continually to reflect the current state-of-the-art knowledge. At the end of the course students should demonstrate a deep understanding of the theoretical foundations and applications of the topics. Prerequisites: Econ 520 and Econ 521 and Econ 522 or equivalent transfer credit as prerequisite.

Econ 731: International Trade Theory

This a graduate course in international trade, the "real" part of international economics. We will be concerned with international transactions in goods and, to a lesser extent, with international migration and direct investments. We will study the determinants and the welfare effects of trade, the policies that are used to influence trade, and the empirical work related to various theories of trade. This course will not include the study of international transactions in money and other financial assets.

Econ 732: International Finance

This course surveys recent empirical and theoretical developments in the field of international finance and open-economy macroeconomics. Topics may include (1) basic balance-of-payments theory, (2) intertemporal models of the currency account, (3) real exchange rate and the terms of trade, (4) international business cycle models, (5) international portfolio diversification and risk sharing, (6) exchange rate dynamics, (7) speculative attacks on fixed exchange rate regimes, (8) international macroeconomic policy coordination, and (9) recent developments in new open economy macroeconomics.

Econ 742: Law and Economics

This is the primary graduate course in law and economics. We study the economic analysis of property, contract, torts, crime and other legal topics. We read classic and contemporary articles in the field. The emphasis is on identifying research topics.

Econ 751: Economics of Capital Markets

The purpose of this course is to give you a solid foundation in the basic economic theory and econometrics used in analyses of financial markets. Part of the course will be the development of theories of asset markets, and most of the course will be the development of econometric analysis used in those markets and assessment of existing empirical research. By the end of the course, you should acquire the tools necessary to read and understand issues raised in the empirical finance literature and use that research in related economics research.

Econ 761: Market Structure and Imperfect Competition

In this course we will focus on both the classic and more recent theories of the impact of market structure and imperfect competition on firm behavior and economic performance. While the primary focus of the course is theoretical, where possible we will confront the theory with evidence from the real world and discuss antitrust issues.

Econ 762: Theory of the Firm

In this course we will study elements of contract theory as applied to understanding the firm's organizational form, behavior, and response to changes in informational and legal environments. The course will be of interest to the students of industrial organization and applied game theory. The course contents can be broadened, however, depending on the students' interests.

Econ 763: Labor Economics

This course is a one-semester survey of selected topics in labor economics. Broadly speaking, these topics deal with factors that determine wages. We will also cover aspects of the relationship between workers and firms.

Econ 770: Health Economics I

This course is designed to introduce students to the application of economic theory to health behaviors and health care markets. Topics will include the production of and demand for health, the economics of healthy and unhealthy behaviors, the demand for medical care, uncertainty and insurance, and other topics relating to the industry. The role of government in regulating health care markets and in promoting healthy behavior will also be discussed.

Econ 771: Health Economics II

This course explores the industrial organization of health care markets in the U.S. We will focus on the following areas: hospital production and competition, information asymmetries, vertical integration between physicians and hospitals, insurance markets (including adverse selection and managed competition), and finally issues of insurer and hospital bargaining. The class is effectively designed as an empirical IO course with applications to health care. As such, we will also examine several econometric tools used in the literature, including production function estimation, demand estimation, and some coverage of structural econometric methods. These methods will be introduced as needed throughout the course.

Econ 791G/791H: Dissertation Workshop I & II

The Dissertation Workshop meets weekly in the fall and spring semesters. Students and faculty read, hear, and discuss critically work in progress prepared by themselves and visiting scholars.

Econ 797R: Tutorial in Economics

Supervised research and exploratory study for the development of a proposal for a dissertation topic for the Ph.D. Students must receive Departmental permission to take this course, both from the faculty supervisor and from the Director of Graduate Studies. Students may register for this course on an S/U basis only.

Econ 799R: Dissertation Research

Research and writing of a Ph.D. dissertation on a topic previously approved by the Department faculty, under the supervision of a committee appointed with the advice and consent of the faculty. Students may register for this course on an S/U basis only.