Master of Arts in Economics at Clemson University:

Graduate Student Handbook for 2023-2024

Overview

Students who earn a Master of Arts (MA) in Economics learn to analyze effects of scarcity on human behavior, apply economic theory, estimate and interpret econometric models, and test hypotheses to answer questions about the behavior observed in markets or affected by policies. The markets or policies might relate to anti-trust and competition, economic growth, energy, education, employment, environmental quality, innovation, international currencies and trade, health care, natural resources, property rights, regulation, sports, sustainability, or taxation.

The MA in Economics is a traditional program in the John E. Walker Department of Economics at Clemson. The Department of Economics currently consists of 33 faculty members. See http://economics.clemson.edu/faculty-and-staff for details about our backgrounds and interests. The Department is part of the <a href="https://wildows.com/wildows/wildo

Students in the MA in Economics program are well prepared for jobs in the private and public sectors and think tanks for public policy. Graduates of the program have used their skills to fill increasingly valuable niches for analyses of markets and government policy. Employers of graduates include these: Abbot Laboratories, American Transportation Research Institute, Bates White Economic Consulting, Beacon Economics, Collaborative Solutions, Deloitte, Ernst and Young (EY), eviCore, Gartner, IHS Markit, Investinet, Mather Economics LLC, Norfolk Southern, Northwestern Mutual Insurance, Property and Environment Research Center (PERC), Resurgent Capital Services, Shellpoint Mortgage Servicing, Sparks Research, and SteelFab. Other graduates subsequently earn law degrees or doctoral degrees in economics, health economics, or agricultural economics.

II. Curriculum

The curriculum for the MA in Economics is flexible. Graduate students for whom the MA is a terminal, or professional, degree almost always choose the thesis option. The thesis option enables students to acquire theoretical and empirical skills through coursework and demonstrate their competence and creativity through the Masters' thesis. The coursework can be completed in two semesters and most students can complete the thesis and their degree within a 12-month period. A non-thesis option is also available for students who take and pass a more challenging set of core courses, ones for doctoral students. The MA in Economics is not a STEM degree.

A. Required Courses, Credits, and Grades

Students must earn at least 30 credits of course work. They must earn 24 credits for graded courses and, for those who write a thesis, 6 credits for thesis research (ECON 8910) to satisfy the 30-credit minimum. A minimum of one-half of the total graduate credit hours that a student's advisory committee requires, exclusive of credits for thesis research, must be earned from 8000-level courses or above. In other words, not more than one-half of the credits from graded courses that the advisory committee requires may be earned from 6000-level courses. Two semesters of four 3-credit graded courses per semester usually prepare the student for thesis work.

A student must take at least two 3-credit graduate courses in applied economic theory. The two graduate courses are usually Microeconomics for Public Policy (ECON 8230), offered in the fall

semester, and Markets, Competition, and Strategy (ECON 8430), offered in the spring semester. Students may not substitute Organization of Industries (ECON 6240) for ECON 8430. If a student takes ECON 6240 as an elective, the student should take Macroeconomic Theory (ECON 8050) to satisfy the requirement for a second course in applied economic theory. Intermediate microeconomics (ECON 3140) or its equivalent is a pre-requisite for ECON 8230.

A student must take at least one 3-credit graduate course in applied econometrics. Students are strongly encouraged to take Economic Analytics for Business (ECON 8700), offered in the fall semester. Students who want a second and related course are strongly encouraged to take Advanced Economic Analytics for Business (ECON 8710), offered in the spring semester. Although rare, substitutions are possible with approval of the course instructor and graduate coordinator.

An MA student must take at least 9 credits of elective courses in economics. (See section C below.) A student may also take at most 6 credits of electives from other departments with approval of the MA program coordinator and the student's advisor. (See section D below for other electives.)

MA students who are superbly prepared, do not want to write a thesis, and wish to develop advanced skills in economic theory may earn their MA degree by successfully completing each course in the core curriculum of the PhD in Economics and one three-credit elective course. Students who wish to take the core courses must obtain advance permission from the PhD and MA program coordinators. MA students who aspire to enroll in Clemson's PhD in Economics program might want to take the core courses. The PhD core currently consists of Applied Mathematical Economics (ECON 8040), a three-course sequence in microeconomics (ECON 8010, 8020, and 9010), a two-course sequence in macroeconomics (ECON 8050 and, for now, ECON 8980), and a three-course sequence in econometrics (ECON 8060, 8070, and either 8080 or 9090). The minimum requirements of 30 credits still apply. Successful completion of this non-thesis option requires a minimum of three semesters of coursework.

B. Typical Schedule for One Year of Courses for MA in Economics with Thesis

Semester	Course	Credits
Fall	Microeconomics for Public Policy (ECON 8230)	3
Fall	Economic Analytics for Business (ECON 8700)	3
Fall	An elective 6000- or 8000-level ECON course	3
Fall	A 6000- or 8000-level ECON or other pre-approved elective course	3
	Subtotal for Fall	12
Spring	Markets, Competition, and Strategy (ECON 8430)	3
Spring	Advanced Economic Analytics for Business (ECON 8710) or another ECON elective	3
Spring	Another elective 6000- or 8000-level ECON course	3
Spring	A 6000- or 8000-level ECON or other pre-approved elective course	3
	Subtotal for Spring	12
Summer	Thesis Research (ECON 8910)	6
	Total for Three Semesters in Twelve Months	30

Check course availability through Section Overview in iRoar. Use Public Access to the Syllabus Repository at https://etpr.app.clemson.edu/repository/ to download previous syllabi.

Students who initially enroll in the fall semester can earn their MA degree within 12 months. However, students who enter the MA program in the spring semester might not be able to finish within 12 months because ECON 8230 is offered only in the fall semester. Students have six years

from the date of their first matriculation to complete their degree.

All students in our MA program are also expected to participate in four informal workshops, two during the Fall and two during the Spring semester on communicating economics.

C. Elective Courses in Economics (Semester Recently Offered)

ECON 6020 - Law and Economics (Fall)

ECON 6100 – Economic Development (Fall)

ECON 6110 - Economics of Education

ECON 6120 – International Microeconomics (Fall and Spring)

ECON 6130 - International Macroeconomics

ECON 6220 - Monetary Economics

ECON 6230 – Economics of Health (Fall and Spring)

ECON 6240 – Organization of Industries (Fall)

ECON 6250 - Antitrust Economics (Fall)

ECON 6260 – Seminar in Sports Economics (Fall and Spring)

ECON 6270 - Development of the American Economy (Spring)

ECON 6280 - Cost-Benefit Analysis (Fall)

ECON 6290 - Economics of Energy Markets

ECON 6400 – Game Theory (Spring)

ECON 6570 - Natural Resource Use, Technology, and Policy (Spring)

ECON 8050 – Macroeconomic Theory (Spring, a course primarily for doctoral students)

ECON 8110 – Economics of Environmental Quality (Spring)

ECON 8150 – Economic History of the United States (Spring)

ECON 8260 - Economic Theory of Regulation (Fall)

ECON 8270 - Economics of Institutions and Organizations (Spring)

ECON 8600 – Data Analysis for Economics (only Fall)

ECON 8610 – Advanced Data Analysis for Economics (only Spring)

D. Other Electives Courses from Other Departments

AGRB 6090 – Commodity Futures Markets

AGRB 6560 - Prices

CRP 8040 – Introduction to GIS for Planning and Policy (Fall, 4 credits)

CPSC 6300 – Applied Data Science (Fall)

FOR 6340 and FOR 6341 - Geographical Information Systems for Natural Resources and Lab

MATH 6070 - Regression and Time Series Analysis (Fall and Spring)

STAT 6020 – Introduction to Statistical Computing (Fall and Spring)

STAT 8010 – Statistical Methods I (Fall and Spring) or STAT 8420 – Introduction to Statistical Methods (online in Spring and Summer) for those with insufficient background in statistics

STAT 8020 - Statistical Methods II (Fall and Summer)

STAT 8030 - Regression and Least Squares Analysis

STAT 8040 – Sampling (Spring)

STAT 8050 – Design and Analysis of Experiments (Fall and Spring)

E. Academic Probation

A graduate student must have a grade point average (GPA) of 3.0 or better, on a scale of 0 to 4, to earn a graduate degree from Clemson University. A student who does not maintain a GPA of at least 3.0 is put on academic probation or may be dismissed from MA in Economics program. There are two levels of academic probation: R1 for those on probation for the first time and R2 for those

beyond the first time. Students who are placed on probation because their GPA has fallen below 3.0 are expected to raise their GPA to at least 3.0 within nine credit hours. Although students who fail to do so may be dismissed from their program at this point, those who make excellent progress may be given another chance to do so within the next nine credit hours. Students who are placed on academic probation must file a GSPS, which must be signed by the graduate coordinator and approved by the Graduate School. The student has the responsibility to contact the coordinator of the MA in Economics program for discussion about the Plan for Success prior to approval.

III. Administrative Requirements: Policies, Procedures, and Forms

Clemson University and its Graduate School have many policies and procedures that applicants, admitted students, and faculty must follow. Each student is responsible to know about these policies and procedures, which are found in the current <u>Graduate Student Handbook</u>. See https://www.clemson.edu/graduate/students/policies-procedures/index.html for details.

As a result of its policies and procedures, the Graduate School also has forms that should be filled out and filed in a timely fashion to ensure that an applicant is considered for admission and an admitted student graduates on time. Students are responsible for meeting administrative requirements and also keeping track of any subsequent changes. Students must consult the Graduate School Announcements and updates on the Graduate School's website. Forms for enrolled students are available at https://www.clemson.edu/graduate/students/forms.html.

Some of the most important policies, procedures, and forms are discussed below in this section. Although the information in this section is correct at the time of its being written, students are responsible for any and all subsequent changes. That is, the information in this section cannot substitute for and is not necessarily the information available on the Graduate School's websites.

A. Application and Admission to Program

To apply for admission to the MA in Economics program, please follow the instructions at https://www.clemson.edu/graduate/admissions/apply/new-applicants.html and start the online application here: https://gradapply.clemson.edu/apply/. Applications should be completed by February 15 to guarantee a decision and notification before April 15. Applications submitted after Feb. 15 will be reviewed as capacity allows. Students who have unusual backgrounds or circumstances and want to apply for possible admission for the spring semester should submit a completed application by October 1 and notify the graduate coordinator if they do. Applications submitted after Oct. 1 will be reviewed as capacity allows.

An applicant's grades, Graduate Record Examination (GRE) scores, statement of purpose, at least two letters of recommendation, academic background, and relevant work or personal experience are required for a complete application and, along with the reputation of his or her alma mater, are the criteria for an admission decision. Applicants, not Chat GPT nor other generative artificial intelligence, must write the statement of purpose. No minimum grade point average or minimum GRE score automatically disqualifies an application. However, admitted students usually have earned an A or B, or equivalent scores, for their courses, particularly those in economics, statistics, and other mathematics. Median scores of students recently admitted to the MA in Economics are 158 (61st percentile) for the quantitative, 154 (62nd percentile) for the verbal, and 4 (54th percentile) for the analytical writing parts of the GRE. (U.S. citizens and resident aliens may request a discount in the fees for the GRE from the Fee Reduction Program of the Educational Testing Service.)

International applicants must take an English test and submit official scores unless they are exempted. Admitted international students have earned at least 90 on the Test of English as a

Foreign Language (TOEFL) iBT and at least 20 for listening and 20 for speaking. If an admitted international student has not taken the TOEFL, she instead has earned a score of at least 60 on the Pearson Test of English (PTE) Academic, 7.0 on the International English Language Testing System (IELTS), or 115 on Duolingo's test. An applicant with a low TOEFL, PTE Academic, IELTS, or Duolingo score can still be admitted conditional on completing Level 112 of an ELS course and retaking the GRE. International applicants who have studied abroad for at least two years in the U.S. or other English-speaking country and completed their undergraduate education there are not required to retake an English test. International applicants who have graduated from "exempt institutions" should contact the Graduate School to request an exemption from the English test. "Exempt institutions" are listed here: https://www.clemson.edu/graduate/admissions/preparing-to-apply/international-applicants/english-language-proficiency-exam-exemptions.html.

Admitted students have usually studied univariate and multivariate calculus, introductory probability and statistics, intermediate microeconomics, and intermediate macroeconomics. Students who majored in economics or agricultural economics or who majored in mathematics or statistics but took intermediate microeconomics and intermediate microeconomics typically have adequate backgrounds. Excellent students with inadequate backgrounds in economics may be admitted but may also be required to take extra, co-requisite undergraduate courses, such as intermediate microeconomics or intermediate macroeconomics. Domestic students with inadequate backgrounds may also apply as non-degree seekers, take co-requisite undergraduate or even core graduate courses, and then apply to the program. The number of applicants who are accepted each year varies.

B. Tuition and Fees

Tuition and fees are set by Board of Trustees during their July meeting for the upcoming academic year. The MA in Economics program is a Tier 2 program for purposes of tuition. In 2023-2024 full-time graduate students will pay tuition of \$5,610 per semester if they are residents of South Carolina and \$11,686 per semester if they are non-residents. All full-time students will pay \$713 per semester in fees. A student must take at least nine credit hours in each of the Fall and Spring semesters to be full time. Part-time students will pay \$772 per credit if they are residents and \$1,548 per credit if they are non-residents. Part-time students also pay \$121 in additional fees. Check our online calculator for tuition and fees for the latest information about costs. Grading, research, and teaching assistantships are not available to students in the MS in Economic Analytics program. Nor are we able to offer any scholarship, fellowship, or tuition waiver to our MS students.

International students pay in-state tuition, however, if their passports indicate that they come from any of these locations: 1) Taiwan, 2) Rhineland-Palatinate, or Rhineland-Pfalz, Germany, 3) Thuringen, Germany, 4) Brandenburg, Germany, and 5) Queensland, Australia. They pay in-state tuition because their respective governments have Sister-State Agreements with South Carolina.

All graduate students are required to have health insurance. Students who are already covered by policies that meet the University's requirements are eligible for waivers. All others are covered by the Clemson University Student Insurance Plan. Fees for health insurance are included with tuition and fees for Fall and Spring semesters and students are automatically enrolled. The premium for health insurance during the summer is included in the fee for the Spring semester.

C. Major Advisor, the Advisory Committee, and Plan of Study

The major advisor, other members of the advisory-examining committee, and courses that a student choose are important choices because they can affect opportunities for employment or doctoral education. A student's major advisor is also the chair of the student's advisory-examining committee. A faculty member from the Department of Economics must serve as the major advisor

or at least a co-advisor. The faculty member who is asked must also agree to serve as the major advisor. The major advisor assists the student in course selection, supervises research, leads the student's advisory-examining committee, and writes letters of recommendation for jobs or doctoral programs. Students should choose a major advisor by the middle of their second semester or the start of their final semester. Students should be available to regularly meet with their major advisor. The graduate program coordinator serves as interim advisor until the student selects one.

The student, in consultation with his or her major advisor, also chooses at least two other members of the advisory-examining committee by the middle of his or her second semester or the start of the student's final semester. Members of this committee review and approve elective courses, review and approve the thesis, and participate in a final oral examination. They may also write letters of recommendation for future jobs or admissions to doctoral programs.

A student fills out an online form, GS2 Committee Selection, to create the committee. In iRoar the student clicks buttons called Students and Student Records and then selects the links GS2 Committee Selection and Thesis. After these selections in the online form, the student selects the faculty names, associated job titles, and desired committee positions of the members. See https://www.clemson.edu/graduate/files/pdfs/gs2 committee new.pdf for more details.

Required courses, elective courses, and any undergraduate, co-requisite course that addresses a deficiency in background are listed in a form called the GS2 Plan of Study. The student must file the GS2 Plan of Study by the middle of his or her second semester or before the start of his or her final semester as an enrolled student. The exact date of the deadline for filing the GS2 Plan of Study can be found at https://www.clemson.edu/graduate/students/deadlines.html. A student can amend the GS2 Plan of Study if academic plans change. The final version of the GS2 Plan of Study is important because someone in Enrolled Student Services determines the student's eligibility for graduation by checking each course listed against the student's transcript.

Please refer to https://www.clemson.edu/graduate/students/plan-of-study/index.html for more information about the GS2 Committee Selection and GS2 Plan of Study.

D. Final Examination: Thesis and Oral Examination

The final examination of a student who earns a MA in Economics consists of two parts: 1) the thesis and 2) an oral examination. The oral examination is typically a student's oral defense of her thesis but might also include questions that a member of the examining committee might ask to ascertain that the student can competently apply economic and statistical knowledge. MA students in Economics have two attempts to pass the oral exam. Students must write and defend their thesis in a timely fashion or risk dismissal. The thesis should be scheduled and successfully defended at least four weeks prior to graduation. Formal notification of a thesis defense is due in Enrolled Services at least 10 days prior to the defense. The notification is made through an online form called "Submit <u>Defense Form</u>". The information must include the student's name, program of study, title of thesis, major advisor, date, time, and location. The student arranges the date, time, and place for a defense of a thesis in consultation with the major advisor and other committee members. The graduate student also contacts Ms. Kimmie Albertson at kr2@clemson.edu or 864-656-3497 to reserve a room for his or her defense. Copies of the thesis should be sent to the student's advisory committee at least seven days before the defense. The student's major advisor and other members of the advisory committee conduct the oral examination, but all faculty members may attend. A GS7M must be signed and submitted approximately two weeks before last day of classes of the semester of graduation to indicate passage of the final examination and successful defense of the thesis. The defense must be scheduled early enough to allow a student time for committee-required revisions to

the thesis before the deadlines for submission of the GS7M and the thesis. After the exam, revisions in the thesis by the student must be approved by the major advisor and committee members. The exact dates to file the GS7M and submit the thesis are found at https://www.clemson.edu/graduate/students/deadlines.html.

IV. Plan for a Bachelor in Economics to Master in Economics

A. Overview of Plan for BA or BS to MA in Economics

The Bachelor-to-Graduate plan enables undergraduate majors in economics (BA or BS) at Clemson to take graduate courses and also earn their MA in Economics. An undergraduate economics major with an approved Bachelor-to-Graduate Plan may enroll in graduate courses for dual use and, thereby, satisfy course-content requirements of the Masters' degree and the undergraduate major in economics. The numerical credits for a dual-use course, however, cannot be counted twice to satisfy the minimum requirements for unique credits of both degrees. In particular, students must earn at least 120 and 30 unique credits for their Bachelor's and Master's degrees. For example, an economics major could use the 6000-level version of Cost-Benefit Analysis (ECON 6280) in lieu of the undergraduate version of the course (ECON 4280) to satisfy part of her major's requirement of 9 or 12 credits from elective courses in economics for her BS or BA and also use the course's 3 credits to reach the 30 unique credits required for her MA degree. The student would need to earn 123 credits to graduate with her BA or BS, however, so that 120 of them were unique.

A maximum of 12 credit hours of graduate courses that satisfy requirements for the MA in Economics may be taken for dual use. Approved graduate courses may satisfy electives of the bachelor's degree. Approved 8000-level courses may be substituted for required undergraduate courses in economics. However, 6000-level counterparts of 4000-level courses that are specifically identified as required for the bachelor's degree (e.g., ECON 4050) cannot be counted toward the Master's requirements. See "1.3. Special Applicant Categories" in the Graduate School's Policy Handbook for similar information about the "Combined Bachelor's/Master's degree".

B. Eligibility and Admission Requirements

Undergraduate economics majors who have earned at least 90 credits at Clemson and a grade point average of 3.40 are eligible to submit a Bachelor-to-Master plan for approval. Students use the form "GS6-Bachelor-to-Graduate—Request for Combined Education Plan" each semester. The online application and its requirements for admission, such as GRE scores, are waived for Clemson students with approved Bachelor's-to-Master's plans to pursue the MA in Economics.

C. Approval and Acceptance into Plan

Economic majors should consult both their undergraduate academic advisor and the graduate program coordinator of the Master's program, Scott Templeton (stemple@clemson.edu). The students' undergraduate advisor, Chairperson of the Economics Department, graduate coordinator of the masters' program, and an official of the Graduate School all must approve the plan.

Once the <u>GS6-Bachelor-to-Graduate</u> form is signed and submitted to the graduate school, the Graduate School tracks a student's progress until graduation with the Bachelor's degree in Economics. Upon completion of the undergraduate degree in economics and meeting the required GPA, the student is officially accepted into the MA in Economics. In other words, upon graduation with the BA or BS in Economics and meeting the GPA requirement, students are sent letters that inform them of their full acceptance into the MA in Economics program. Their status in iRoar is also updated to graduate student.

D. Graduate Program Requirements of the Bachelor-to-Master Plan

The curricular requirements for the MA component of the Bachelor-to-Master plan are identical to those for the MA in Economics. A student must earn at least 30 credits in graduate economics or other approved courses and 6 of the 30 credits must be thesis research (ECON 8910). A student must also maintain a 3.0 graduate grade-point average. Not more than one-half of the credits from graded courses that the advisory committee requires may be from 6000-level courses.

V. Other Educational and Career-Related Resources at Clemson

In addition to the courses that our department offers in economic analytics and data analysis, the Clemson Visualization Lab has twelve workshops in <u>data visualization and analytics</u>. See https://sites.google.com/g.clemson.edu/vizlab/home?authuser=0 for details.

Palmetto Cluster is Clemson University's high performance computing resource. People who run the Palmetto Cluster offer training in R, Python, and machine learning in these languages, among other things. See https://www.palmetto.clemson.edu/palmetto/training/schedule/ for the training schedule. The Clemson Center for Geospatial Technologies (CCGT) currently offers eleven free workshops to train students in geographic information systems and enable them to earn certificates.

Graduate students can access services and programs of Clemson's <u>Center for Career and Professional Development</u>. Clemson has "<u>great career services</u>" among colleges and universities in the U.S. according to the 2021 Princeton Review, and has earned this superlative rating for the past ten years. Clemson also ranked 3rd best among public universities for <u>internships</u>, according to the Review. <u>The Michelin Career Center</u>, which is part of the Center for Career and Professional Development, has various informational services for <u>graduate students</u>. The Graduate School has its own set of online resources for professional development and career planning called Grad360°. Although graduate students are responsible for their job searches, the graduate coordinator and departmental chair might occasionally provide them with information about job openings.

To improve their study methods, time management, and test preparation, graduate students can use resources of the Academic Success Center, such as <u>success strategy worksheets</u>. The beautiful and spacious <u>new buildings</u> of the Wilbur O. and Ann Power College of Business also enhance the education and professional development of our graduate students.

To access electronic copies of previously approved theses for the MA in Economics and the MS in Economic Analytics, use this link: https://tigerprints.clemson.edu/theses_econ/.