I. Overview

Embark on a transformative journey with the Master of Science (M.S.) in Economic Analytics. This dynamic program seamlessly blends applied microeconomics, econometrics statistics, data scraping, machine learning and advanced topics in data analytics.

This combination of economic theory and advanced empirical data skills is highly valued in the modern economy across diverse industries, including agriculture, automobile manufacturing, banking, credit, energy, finance, forestry, health care, insurance, outdoor recreation, and sports.

Whether you aim to become a professional economist, an applied business data scientist or a strategic advisor, you’ll gain the expertise to make data-driven economic decisions with confidence.

The core classes include Price Theory, Strategic Analysis, Advanced Analytics for Advanced Economic Analytics for Business, and Advanced Data Analysis for Economics.

Building on these core classes, students can exploit the flexibility of the program to tailor their elective courses and research as desired. The Department of Economics offers courses in financial economics, personnel economics, law and economics, cost-benefit analysis, game theory, monetary economics, economics of education, international economics, economics of health, antitrust economics, sports economics, environmental economics, anti-trust economics, natural resources, and more. Combining economics courses with electives outside the department allows students to create a flexible and individually tailored curriculum, whatever their interests in economics and analytics.

A unique feature of the M.S. program is that it can be completed either in one calendar year or part-time over several years. The program begins in June each year with online courses in Price Theory for Management and Analytics for Business. Full-time students then take 4 classes in each of the fall and spring semesters and graduate the following May. For part-time students who are fully employed, two evening classes will be offered each spring and Fall semester. Part-time students can take as many classes as they want during the fall and spring semesters; if they take two classes during each of the fall and spring semesters, they will graduate in two years.

The U.S. Department of Homeland Security recognizes the M.S. in Economic Analytics as a Science, Technology, Engineering, and Mathematics (STEM) degree. International (F-1) students may apply for a 24-month extension of optional practical training (OPT) with the M.S. in Economic Analytics.

Current Clemson undergrads can complete the Master’s in the B.S. to M.S. program and earn a master’s at the same time as a bachelor’s degree.

Tom Evans and Scott Templeton are co-coordinators of the M.A. in Economics program. Tom Evans coordinates the program for individuals who are not currently attending Clemson. Scott Templeton coordinates the program for current Clemson students.

II. Curriculum
Students are required to earn 30 credits in a combination of required core classes, economics electives, and electives outside the department.

A. Required Courses

All students must take 6 credits of applied economics theory:

<table>
<thead>
<tr>
<th>ECON  ------</th>
<th>Price Theory for Management</th>
<th>3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>or ECON 8230</td>
<td>Microeconomics for Public Policy</td>
<td>3 credits</td>
</tr>
<tr>
<td>and ECON 8430</td>
<td>Strategy, Markets, and Competition</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

All students must take 6 credits in applied econometrics:

| ECON 8700 | Economic Analytics for Business | 3 credits |
| ECON 8710 | Advanced Economic Analytics for Business | 3 credits |

All students must take 6 credits in applied data analytics:

| ECON 8600 | Data Analysis for Economics | 3 credits |
| ECON 8610 | Advanced Data Analysis for Business | 3 credits |

NOTE 1: Intermediate microeconomics is a pre-requisite for ECON (Price Theory) and ECON 8230.

NOTE 2: An undergraduate course in econometrics, such as ECON 4050, is a prerequisite for ECON 8700.

NOTE 3: ECON 6240 and ECON 8430 may not both be counted towards the master’s program. If a student takes ECON 6240, they must take ECON 8050 to fulfill the applied economic theory requirement.

NOTE 4: Though rare, substitutions may be approved by the program coordinator and course instructor.

B. Economics Research Course

All M.S. students are required to complete a one-semester research paper, though there are three options: completing a project of their own choosing, completing a practicum working with a local firm or government entity, or completing research as part of an internship.

<table>
<thead>
<tr>
<th>ECON  ------</th>
<th>Economics Research Course</th>
<th>3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>or ECON 8810</td>
<td>Internship in Economics</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

ECON ---- Economics Research (3 credits): This course takes students from initial idea through literature review, theory, data gathering, data analysis, hypothesis testing and conclusion. Within this course are two options. One is for the student to select a topic of their own choosing. The second is to be partnered with a local business or government entity by the Clemson Small Business Development Center on an applied economics project.
ECON 8810 Internship in Economics (3 credits): This course provides students with an opportunity to apply economic analysis in a business setting to develop technical skills in a professional environment as part of their summer internship or full-time work.

C. Elective Courses

All coursework must be completed at the 6000 or 8000 level, with a maximum of 9 credits at the 6000 level.

Students may take at most 6 credits of non-economics electives; the remaining courses must be taken from the economics department.

D. Elective Courses in Economics

ECON 6020 – Law and Economics (Fall and Spring)
ECON 6100 – Economic Development (Fall)
ECON 6110 – Economics of Education
ECON 6120 – International Microeconomics (Fall)
ECON 6130 – International Macroeconomics
ECON 6220 – Monetary Economics
ECON 6230 – Economics of Health (Fall and Spring)
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 (Spring)
ECON 6400 – Game Theory (Spring)
ECON 6570 – Natural Resource Use, Technology, and Policy (Spring)
ECON 8110 – Economics of Environmental Quality (Spring)
ECON 8150 – Economic History of the United States
ECON 8260 – Economic Theory of Regulation (Fall)
ECON 8990 – Financial Economics (Fall)
ECON ___ - Financial Economics
ECON ___ - Personnel Economics

E. 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
STAT 6020 – Introduction to Statistical Computing (in the past, Fall for SQL and Spring for R)
STAT 8010 – Statistical Methods I (Fall and Spring) for those with insufficient background
STAT 8020 – Statistical Methods II (Fall and Summer)
STAT 8030 – Regression and Least Squares Analysis (Fall and Spring)
STAT 8040 – Sampling (Spring)
STAT 8050 – Design and Analysis of Experiments (Fall and Spring)
F. Typical Schedule for Full-Time, One Year M.S. in Economic Analytics

Summer (online)
ECON ____ - Price Theory for Management
ECON 8700 - Economic Analytics for Business

Fall (in person)
ECON 8430 - Strategy, Markets, and Competition
ECON 8600 – Data Analysis for Economics
ECON 8710 - Advanced Data Analytics for Business
3 credits of electives

Spring (in person)
ECON ____ - Economics Research Course
or ECON 8810 – Internship in Economics
ECON 8610 – Advanced Data Analysis for Economics
6 credits of electives

NOTE 1: All students in the M.S. program are expected to participate in four informal workshops - two during the Fall and two during the Spring semester - on communicating economics.

NOTE 2: 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.

G. Typical Schedule for Part-Time M.S. in Economic Analytics

Summer (online)
ECON ____ - Price Theory for Management
ECON 8700 - Economic Analytics for Business

After the first summer, students can take one or two classes each fall and Spring semester until they complete all the requirements.

Students have six years from the date of their first matriculation to complete their degree.

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 for knowing about these policies and procedures, which are found in the current Graduate Student Handbook. See also https://www.clemson.edu/graduate/students/policies-procedures/index.html.

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 current information on the Graduate School’s websites.

A. Admission Requirements

The program takes a broad view of applicants. There are no limits on the number of students that can be accepted. Students accepted into the program have demonstrated the preparation and ability to be successful.

Accepted students will typically have the following qualifications:

- A four-year undergraduate degree from an accredited institution with a GPA of at least 3.0.
- Taken intermediate microeconomics and earned 3.0 or above.
- Taken a statistics course and earned 3.0 or above.
- Taken univariate and multivariate calculus and earned 3.0 or above.

Students who majored in economics, agricultural economics, mathematics or statistics and took intermediate microeconomics will have adequate backgrounds.

Students who have not achieved all of the above will still be considered, but students need to then provide evidence that they will be successful in the program. This could be by explaining exceptional circumstances or by describing the subsequent steps that students have taken to improve or demonstrate competency in each of these areas.

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 calculus. 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.

B. Application and Admission to Program

To apply for admission to the M.A. 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 March 15 to guarantee a decision and notification before April 15.

Complete applications should include the following:

i. Complete official transcripts from all post-secondary institutions.

ii. A personal statement. The personal statement should include the applicant’s reasons for pursuing a master’s degree and why they believe their preparation is sufficient to be successful. This personal statement must be written by the applicant.

iii. Two letters of recommendation. For undergraduate applicants, both letters should be from academic sources. For currently employed applicants, please include one
academic and one employment reference. The letters should specifically address the applicant’s ability and preparation to be successful in a master’s program.

iv. A curriculum vitae or resume.

v. Graduate Record Examination (GRE) scores are NOT required but are encouraged. For students who do not meet the admission requirements described above, a GRE score would be an acceptable way to address shortcomings. Median scores of students recently admitted to the M.A. 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 on the fees for the GRE from the Fee Reduction Program of the Educational Testing Service.)

vi. 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 4 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 countries 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/preparingto-apply/international-applicants/english-language-proficiency-exam-exemptions.html.

C. Tuition and Fees

Tuition and fees are set by Board of Trustees during their July meeting for the upcoming academic year. The M.S. in Economic Analytics 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 M.S. in Economic Analytics program. Nor are we able to offer any scholarship, fellowship, or tuition waiver to our M.S. 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 the $713 in
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.

D. Major Advisor, the Advisory Committee, and Plan of Study
Students should choose a major advisor by the middle of their second semester or the start of their final semester. A faculty member from the Department of Economics must serve as the major advisor or at least a co-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. The graduate program coordinator serves as interim advisor until the student selects one.

E. Plan of Study
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](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](https://www.clemson.edu/graduate/students/plan-of-study/index.html) for more information about the GS2 Plan of Study.

F. 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 any 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 the M.S. in Economic Analytics program. There are two levels of academic probation: R1 for those on probation for the first time and R2 for those after the first time. Students 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 placed on academic probation must file a Graduate Student Plan for Success (GSPS), which must be signed by the graduate coordinator and approved by the Graduate School. The GSPS can be found under the tab “All Forms.” The student has the responsibility to contact the coordinator of the M.S. in Economic Analytics program for discussion about and approval of the Plan for Success.

G. Plan for B.A. or B.S. in Economics to Master of Science in Economic Analytics

A. Overview of Bachelor-to-Graduate Plan
A Bachelor-to-Graduate plan enables undergraduate majors in economics (B.A. or B.S.) at Clemson to take graduate courses and also earn credits for their M.S. in Economic Analytics. In particular, 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 undergraduate major in economics and the master’s degree. The numerical credits for a dual-use
course, however, cannot be counted twice to satisfy the minimum requirements for unique credits for both degrees. That is, 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 (ECON 4280) to satisfy part of her major’s requirement of credits from economics courses for her B.S. or B.A. and also use the course’s 3 credits to reach the 30 unique credits required for her M.S. degree. The student would need to earn 123 credits to graduate with her B.A. or B.S., however, so that 120 of them were actually unique.

A maximum of 12 credit hours of graduate courses that satisfy requirements for the M.S. in Economic Analytics may be taken for dual use. A 6000-level or 8000-level economics course can be approved for dual use. Also, an approved 8000-level course may be substituted for a specifically required undergraduate course in economics. However, 6000-level counterparts of 4000-level courses that are specifically identified as required for the bachelor’s degree 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 an M.S. in Economic Analytics.

**C. Approval of Plan and Acceptance into Graduate Program**

Economic majors at Clemson should consult both their undergraduate academic advisor and the graduate program coordinator of the master’s program, Scott Templeton (stemple@clemson.edu). Approval of a plan is required by the student’s undergraduate advisor, Chairperson of the Economics Department, graduate coordinator of the masters’ program, and the Graduate School. Once the GS6-Bachelor-to-Graduate form is signed and submitted to the graduate school, the Graduate School tracks a student’s progress until graduation with a bachelor’s degree in Economics. Upon completion of the undergraduate degree in economics and meeting the required GPA, the student becomes officially designated as a graduate student in the M.S. in Economic Analytics. In other words, upon graduation with a B.A. or B.S. in Economics and meeting the GPA requirement, students are sent letters that inform them of their full acceptance into the M.S. in Economic Analytics program. Their status in iRoar is also updated to “graduate student.”

**D. Graduate Program Requirements Related to the Bachelor-to-Master Plan**

The curricular requirements for the M.S. component of the Bachelor-to-Master plan are identical to those for the M.S. in Economic Analytics. A student must earn at least 30 credits in graduate economics or other approved courses. Six of the 30 credits must be thesis research (ECON 8910), or three of the 30 credits must be for an internship (ECON 8810). 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.

**H. 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 had workshops in data visualization and analytics. See
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://docs.rcd.clemson.edu/training/category/workshop-catalog for the catalog. 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 the services and programs of Clemson’s Center for Career and Professional Development. Clemson has “great career services” 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 internships, according to the Review. The Michelin Career Center, which is part of the Center for Career and Professional Development, has various informational services for graduate students. The Graduate School has its own set of online resources for professional development and career planning called Grad360°. The graduate coordinator and departmental chair occasionally provide our students 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 success strategy worksheets. The beautiful and spacious new buildings of the Wilbur O. and Ann Power College of Business also enhance the education and professional development of our graduate students.