Master of Science in Economic Analytics at Clemson University:

Graduate Student Handbook for Academic Year 2023-2024

I. Overview: Unlocking the Power of Data with Economics

In our program for a Master of Science (MS) in Economic Analytics, students learn to combine applied microeconomics and market strategy with quantitative methods for data to navigate and thrive in the complex world of modern business. In particular, students who earn an MS in Economic Analytics learn to apply microeconomics and competitive strategy, describe and visualize economic data, estimate and interpret economic-statistical models, use correlational versions of the models for forecasting and causal versions for explanation, and test hypotheses to answer questions about business. The relevant business might be in agriculture, automobile manufacturing, banking, credit, energy, finance, forestry, health care, insurance, outdoor recreation, or sports. Whether students aspire to be professional economists, applied business-data scientists, or strategists, they become empowered to make economic decisions with data-driven support.

Students in the MS in Economic Analytics program are well prepared with increasingly valuable skills for business. Our recent graduates have been hired at alliantigroup, Bates-White Economic Consulting, FORVIS, Resurgent Capital Services, ScanSource, Truist Securities, and World Vision. Employers of recent graduates from our sister MA in Economics program include Abbot Laboratories, Bloomberg LP, CareCore National, Collaborative Solutions, Deloitte, Export-Import Bank of the U.S.A., Gartner, IHS Markit, John Burns Real Estate Consulting, Norfolk Southern, Northwestern Mutual Insurance, Shellpoint Mortgage Servicing, and Sparks Research. A few graduates subsequently earn doctorates in applied economics, economics, or statistics.

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

The Master of Science in Economic Analytics (MS ECAN) is a new and important graduate program of the John E. Walker Department of Economics at Clemson University. The Department currently has 29 faculty members and is part of the Wilbur O. and Ann Powers College of Business. Professor Scott Baier is the Department's Chair. The coordinator of the MS program is Associate Professor Scott Templeton. He can be reached at stemple@clemson.edu or 864-656-6680.

II. Curriculum

Our curriculum enables students to acquire expertise to thrive in today's data-driven economy. Economic analytics comprises 1) description and visualization of behavior, economic welfare, or prices, 2) estimation of correlational models for prediction of the behavior, welfare, or prices, and 3) estimation of causal economic-statistical models for explanation of these things. Thus, the curriculum for the MS in Economic Analytics is focused on applied microeconomics, economicstatistical modeling, and data analysis for economics. Students who begin in the fall semester can complete their coursework in two semesters, write and defend their theses or final reports about their internships during the summer, and graduate within 12 months. Students who choose the nonthesis option, however, would need to earn 15 credits during one semester to finish within a year.

A. Required Courses and Credits

Students must earn at least 30 credits. If they choose the thesis option, they must earn 6 credits for thesis research (ECON 8910) and at least 24 credits for letter-graded courses. If they choose the

non-thesis option, they must earn 3 credits of "pass" for an internship (ECON 8810) and at least 27 credits for graded courses. A minimum of one-half of the total graduate credit hours that a student's advisory committee requires, exclusive of credits for thesis research or the internship, must be earned from 8000-level courses or above. In other words, not more than one-half of the 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 a student for thesis work. One semester of five 3-credit courses and one semester of four 3-credit courses would prepare a student for an internship. Students are responsible to find internships related to economic analytics.

A student must take two 3-credit graduate courses in applied microeconomic theory and strategy. The two courses are Microeconomics for Public Policy (ECON 8230) and Markets, Competition, and Strategy (ECON 8430). ECON 8230 is taught in the fall and ECON 8430 in the spring. Students cannot substitute Organization of Industries (ECON 6240) for ECON 8430. Intermediate microeconomics (ECON 3140) or its equivalent is a pre-requisite for ECON 8230 and ECON 8430.

A student must take two 3-credit graduate courses in estimation of economic-statistical models and the use of such models for prediction and explanation with hypothesis testing. Economic Analytics for Business (ECON 8700) and Advanced Economic Analytics for Business (ECON 8710) are the two highly and strongly recommended courses. ECON 8700 is taught in the fall and ECON 8710 in the spring. An undergraduate course in econometrics, such as ECON 4050, is a prerequisite for ECON 8700. Although students might be able to substitute another applied econometrics course for one of these, they must have permission of the instructor and graduate coordinator to do so.

A student must take two 3-credit graduate courses in data analysis. Data Analysis for Economics (ECON 8600) and Advanced Data Analysis for Economics (ECON 8610) are usually the two courses and are taught in order. Although students may substitute another data analytics course for one of these, they must have permission of the instructor and graduate coordinator to do so.

A student who writes a thesis must take 6 credits of elective courses in economics, statistics, or other subjects with approval of the MS program coordinator and the student's advisor. A student who does an internship must take 3 additional credits of an elective course in economics, in addition to the 6 credits of elective courses in economics, statistics, or other pre-approved subjects.

B. Typical Schedules of Courses for the MS in Economic Analytics

Semester	Course	Credits
Fall	Microeconomics for Public Policy (ECON 8230)	3
Fall	Data Analysis for Economics (ECON 8600)	3
Fall	Economic Analytics for Business (ECON 8700)	3
Fall	An elective 6000- or 8000-level ECON or other pre-approved course	3
	Subtotal for Fall	12
Spring	Markets, Competition, and Strategy (ECON 8430)	3
Spring	Advanced Data Analysis for Economics (ECON 8610)	3
Spring	Advanced Economic Analytics for Business (ECON 8710)	3
Spring	An elective 6000- or 8000-level ECON or other pre-approved course	3
Spring	An elective 6000- or 8000-level ECON course for non-thesis students	3
	Subtotal for Spring	12 or 15
Summer	Thesis Research (ECON 8910) or Internship (ECON 8810)	6 or 3
	Total for Twelve Months	30

1. One Calendar Year with Fall Admission, Thesis and Non-Thesis Options

Semester	Course	Credits
Spring	An elective 6000- or 8000-level ECON or other pre-approved course	3
Spring	An elective 6000- or 8000-level ECON or other pre-approved course	3
Spring	An elective 6000- or 8000-level ECON	3
	Subtotal for First Spring	9
Fall	Microeconomics for Public Policy (ECON 8230)	3
Fall	Data Analysis for Economics (ECON 8600)	3
Fall	Economic Analytics for Business (ECON 8700)	3
	Subtotal for Fall	9
Spring	Markets, Competition, and Strategy (ECON 8430)	3
Spring	Advanced Data Analysis for Economics (ECON 8610)	3
Spring	Advanced Economic Analytics for Business (ECON 8710)	3
	Subtotal for Second Spring	9
Summer	Internship (ECON 8810) during either summer semester	3
	Total for Seventeen or Nineteen Months	30

2. One and a Half Years with Spring Admission and Non-Thesis Option

Check course availability through <u>iRoar</u> under "Schedule of Classes". Use Public Access to the Syllabus Repository at <u>https://etpr.app.clemson.edu/repository/</u> to download previous syllabi.

Students who begin in a fall semester can earn their MS degree by August of the next year, or within 12 months. Students who enter the program in a spring semester cannot finish within 12 months. Microeconomics for Public Policy (ECON 8230), Data Analysis for Economics (ECON 8600), and Economic Analytics for Business (ECON 8700) are offered only in fall semesters and are prerequisites or strongly recommended preparatory courses for their spring counterparts.

The MS in Economic Analytics is a STEM degree but the MA in Economics is not. The MS in Economic Analytics has two required courses in economic analytics. The MA in Economics has one such required course. The MS in Economic Analytics has two required courses in data analysis for economics. The MA in Economics has none. The MS requires two or three 3-credit elective courses with the thesis or non-thesis option while the MA requires five 3-credit elective courses. The MA in Economics does not have a non-thesis option.

A three-credit internship (ECON 8810) must be no fewer than 320 contact hours—e.g., eight weeks, 40 hours per week or ten weeks, 32 hours per week—with the same internship provider. The internship could be with a business or government agency. The instructor, who is typically the student's advisor, must approve the internship in advance. The internship must relate to economic analytics. That is, the student intern must use at least one aspect of data analytics—data acquisition and cleaning, description, visualization, or statistical analysis—and apply concepts or models from economics to answer non-trivial questions with data. Internships may be done during any semester, but summer internships probably give students the most flexibility to schedule other courses.

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

Also, students have six years from the date of their first matriculation to complete their degree.

C. Elective Courses: Economic Field Courses (Semester Recently Offered)

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)

D. Other Electives: Potentially Relevant 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 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)

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 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 MS in Economic Analytics program. There are two levels of academic probation: R1 for those on probation for the first time and R2 for after 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 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 "<u>All Forms</u>". The student has the responsibility to contact the coordinator of the MS in Economic Analytics program for discussion about and approval of the Plan for Success.

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 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. Application and Admission to Program

To apply for admission to the MS in Economic Analytics program, please follow the instructions at <u>https://www.clemson.edu/graduate/admissions/apply/new-applicants.html</u> and create your online application here: <u>https://gradapply.clemson.edu/apply/</u>. Applications should be completed by February 15 to guarantee a decision and notification before April 15 for the fall. Applications submitted after Feb. 15 will be reviewed as capacity allows. Students who have unusual backgrounds or circumstances and want to apply for admission for the spring semester should submit a completed application by October 1 and notify the <u>graduate coordinator</u>. Applications submitted after Oct. 1 will be reviewed as capacity allows. We strongly recommend that students apply for Fall admission to be able to take required courses in sequence.

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. GRE scores are required of all applicants. (U.S. citizens and resident aliens may request a reduction in the fees for the GRE from the <u>Fee Reduction Program</u> of the Educational Testing Service.) No minimum grade point average or minimum GRE score automatically disqualifies an application for consideration. 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 on the quantitative, verbal, and analytical writing parts of the GRE of students admitted to the MS program are in the 50th – 60th percentiles.

International applicants must, unless exempted, take an English test and submit official scores. To be admitted international students must earn at least 80 on the Test of English as a Foreign Language (TOEFL) iBT and at least 20 for listening and 20 for speaking. If an international applicant has not taken the TOEFL, she must earn 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 for admission. 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 exempt 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" are also not required to retake an English test. For a list of exempt countries and academic institutions and to request an exemption from the Graduate School, see <a href="https://www.clemson.edu/graduate/admissions/preparing-to-apply/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-pyl/international-

applicants/english-language-proficiency-exam-exemptions.html.

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

B. Tuition and Fees

Tuition and fees are set by Board of Trustees during their July meeting for the upcoming academic year. The MS 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 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 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.

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 during their second semester or, at least, before 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 completes 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 "Non-Thesis" or "Thesis". After these selections, 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/deadlines.html. A student can about 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 or Final Report and Oral Examination

The final examination of a student who earns a MS in Economic Analytics consists of two parts: 1) the <u>thesis</u> or final report about an internship and 2) an oral examination. The oral examination is typically a student's oral <u>defense</u> of her thesis or final version of the internship report 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. MS students in Economic Analytics have two attempts to pass the oral exam. Students must write and defend their thesis or final internship report in a timely fashion. (See <u>https://tigerprints.clemson.edu/theses_econ/</u> for copies of previous Master's theses in economics. Also, non-thesis students must have initially written and presented a version of an internship report before they earned "pass" credits for their internship.)

The defense of the thesis or final report about an internship should be scheduled and successfully defended at least four weeks prior to graduation, or at least two weeks prior to the deadline of a student to submit a GS7M, which is the approval by members of the student's advisory committee of the final examination. 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 Defense Form". 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 Emily Danuser at edanuse@clemson.edu or 864-656-3953 to reserve a room for his or her defense. Copies of the thesis or internship report should be sent to members of 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. The <u>GS7M</u> 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 or internship report. The defense must be scheduled early enough to allow a student time for committee-required revisions to the thesis or final report before the deadline for submission of the GS7M and the thesis. (The final version of the internship report is not submitted to the Manuscript Review Office, however.) After the defense, revisions in the thesis or internship report by the student must be approved by the major advisor and committee members. The exact dates when the GS7M must be filed and, if applicable, the thesis must be submitted are found at https://www.clemson.edu/graduate/students/deadlines.html.

IV. Plan for BA or BS 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 (BA or BS) at Clemson to take graduate courses and also earn credits for their MS 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 Masters' degree. The numerical credits for a dual-use course, however, cannot be counted twice to satisfy the minimum requirements for unique credits of 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 BS or BA and also use the course's 3 credits to reach the 30 unique credits required for her MS degree. The student would need to earn 123 credits to graduate with her BA or BS, however, so that 120 of them were actually unique.

A maximum of 12 credit hours of graduate courses that satisfy requirements for the MS 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 <u>Policy Handbook</u> 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 "<u>GS6-Bachelor-to-Graduate—Request for Combined Education Plan</u>" 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 MS 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 students' undergraduate advisor, Chairperson of the Economics Department, graduate coordinator of the masters' program, and the Graduate School.

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 becomes officially designated as a graduate student in the MS in Economic Analytics. 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 MS 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 MS component of the Bachelor-to-Master plan are identical to those for the MS 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.

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 had workshops in <u>data visualization and analytics</u>. See <u>https://sites.google.com/g.clemson.edu/vizlab/home?authuser=0</u> 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://docs.rcd.clemson.edu/training/category/workshop-catalog for the catalog. The clemson.edu/training/category/workshop-catalog for the catalog. The selection is geographic information systems and enable them to earn certificates.

Graduate students can access services and programs of Clemson's <u>Center for Career and</u> <u>Professional Development</u>. 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 <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°. 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 <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.