



UNIVERSITY OF CENTRAL FLORIDA

Master of Science in Economics Program Handbook

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Important Resources

Together, the [Graduate Student Handbook](#) and this handbook should serve as your main guides throughout your graduate career in the Department of Economics at the University of Central Florida. The Graduate Student Handbook includes university information, policies, requirements and guidance for all graduate students. This handbook provides important information concerning the Master of Science in Economics program. Even though both are useful resources, you are always welcome to discuss any issues or questions you have with faculty and staff in the Department of Economics or the Graduate College.

The central activities and missions of a university rest on the fundamental assumption that all members of the university community conduct themselves in accordance with a strict adherence to academic and scholarly integrity. As a graduate student and a member of the university community, you are expected to display the highest standards of academic and personal integrity.

Here are some resources to help you better understand your responsibilities:

- [Academic Honesty](#)
- [Academic Integrity Training](#) - Open to all graduate students at no cost
- [Plagiarism](#)

Pages 14-17 of the [College of Business Graduate Program Handbook](#) states the academic and conduct policies all graduate students are expected to understand and abide by.

Introduction

Welcome to the Master of Science in Economics program, which is a rigorous quantitative program that leads to a graduate degree in economics designed to make graduates more employable by specializing in quantitative methods of business, sometimes referred to as business analytics. What to expect?

First and foremost, quantitative methods of business are informed by theories from economics. That is, at some point or another, virtually every discipline in business uses basic principles from economics. Particularly important are models of incomplete information. For example, the models of moral hazard (where economic actors take hidden actions in their own self-interests, ones that surely are at variance with other economic actors) and adverse selection (where unobserved differences among economic actors known only privately to each result in their taking different actions) that economists have developed over the latter half of the 20th century.

Also important are models of equilibrium strategic behavior, such as those derived in the theory of non-cooperative games of incomplete information, which allow the equilibrium features of models of moral hazard and adverse selection to be investigated. Perhaps the best known and most successful applications of equilibrium strategic behavior in the presence of adverse selection involve models of auctions. Auctions have garnered billions of dollars for firms such as eBay and Google and have also been important in determining which firms have access to the radio spectra that make using cellphones and Wi-Fi so convenient. In the future, personalization on the Internet will make heavy use of models of incomplete information having private values, that is, models of adverse selection.

Methods of quantitative business also rely heavily on tools from econometrics as well as those from mathematical economics and operations research.

Curriculum

The program essentially consists of ten three-credit hour courses taught over eleven months, but two such courses in mathematical economics are bundled as one. In order to make graduates employable in industry, relative to some other programs, this one is quite rigorous quantitatively: many graduates have reported that they devoted more than sixty hours each week to learning in this program, either in lectures or studying on their own. Whether you will have to work this long and hard obviously depends on your background—the courses you completed before entering the program, and how well you learned the material taught in those courses.

Although the structure of this program is similar to others at universities around the world, several courses are different—ones we believe are more relevant in the current business and economic environment. Like many other programs, this one requires two courses in microeconomic theory, effectively two courses in mathematical economics, and a course in econometrics. Unlike some other programs, in this one, we augment the single econometrics course with a two-course sequence in software tools and data preparation; we also require a seminar devoted to behavioral economics. Finally, two capstone courses that culminate in the completion of an empirical project make up the remaining courses. Note that the set of courses students take is fixed; there are no elective courses in the program.

At the heart of the solution to any business problem is a decision problem. Thus, in the first semester of the program, students will learn how to cast a business problem as a decision problem (ECO 6118); how to characterize the solution to that problem using methods from optimization theory and how to describe how optimal solutions are affected by changes in the environment (ECO 6403); and how to implement and to embed this whole framework within the ecosystem of a firm that uses business analytics (ECO 5445).

Fall Courses:

| Number | Title | Credit Hours |
|---------------|------------------------------------|---------------------|
| ECO 6118 | Microeconomic Theory I | 3 |
| ECO 6403 | Mathematical Economics | 6 |
| ECO 5445 | Introduction to Business Analytics | 3 |

Having laid the foundations of decision theory in the first semester, in the second, students will learn how to implement decision problems using data: first, how to organize data (ECO 6445); then how to implement business analytic methods on a computer (ECO 6424); next how to embed decision problems in complex business environments containing incomplete information (such as those involving moral hazard or adverse selection) having equilibrium interactions (ECO 7116); and, finally, how to put it all together within the context of contemporary business and economic issues (ECO 6315).

Spring Courses:

| Number | Title | Credit Hours |
|---------------|---|---------------------|
| ECO 6445 | Data Wrangling | 3 |
| ECO 6424 | Econometrics I | 3 |
| ECO 7116 | Microeconomic Theory II | 3 |
| ECO 6315 | Seminar in Contemporary Economic Issues | 3 |

Capstone I and Capstone II are the culminating academic experience of the program providing students with a forum in which to develop, carry out and write up research of a well-defined problem in business analytics using the tools developed in the program. Students will be required to pose a relevant, important problem in business analytics; develop the necessary economic theory to provide an interpretation of the empirical specification developed; gather and organize the relevant data; train, validate, and test the empirical specification; and write a report in which this research and the conclusions are presented in a convincing manner. During these courses, each student will give four presentations, settings in which personalized feedback can be provided in a timely manner.

Summer Courses:

| Number | Title | Credit Hours |
|----------|-----------------------------------|--------------|
| ECO 6935 | Capstone in Business Analytics I | 3 |
| ECO 6936 | Capstone in Business Analytics II | 3 |

For additional information, which may include updates not in this version of the Handbook, please go to the [Graduate Catalog](#) or the [Program Description in Graduate Catalog](#) for this program.

Examination Requirements

In addition to the usual examinations administered during and at the conclusion of courses, students are also required to complete two other examinations: The first, which is administered before the start of the first semester, is a mandatory diagnostic examination designed to evaluate a student's preparation in mathematics as well as probability and statistics. The results from this examination are used not just as a benchmark for evaluating later progress in the program, but also to identify students who are not well prepared for graduate study in economics, so remedial action can be proposed. Because the results of this examination are also used to rank students for the purposes of financial aid in the second semester, it is in a student's best interest to do the best possible. To prepare for this examination, prior to entering the program, a student should review the materials learned in previous courses in mathematics as well as probability and statistics.

The following are some examples of books at the level expected of admitted students with regard to mathematics as well as probability and statistics:

1. *Calculus and Analytic Geometry*, (9th Edition) by George B. Thomas, Ross L. Finney. Boston: Addison-Wesley Publishing, 1996.

<https://www.amazon.com/Calculus-Analytic-Geometry-George-Thomas/dp/0201531747>

2. *Introduction to Linear Algebra*, (Fifth Edition) by Gilbert Strang. Boston: Wellesley-Cambridge Press, 2016.

<http://math.mit.edu/~gs/linearalgebra/>

3. *Mathematical Statistics with Applications*, (7th Edition) by Dennis Wackerly, William Mendenhall, and Richard L. Scheaffer. Belmont, California: Brooks/Cole, 2008.

<https://www.amazon.com/Mathematical-Statistics-Applications-Dennis-Wackerly/dp/0495110817/>

[ref=sr_1_fkmr0_1?](#)

[keywords=mendenhall+schaeffler+wackerly+probability+and+statistics&qid=1580557714&sr=8_1-fkmr0](#)

At the end of the fall semester there is a mandatory qualifying examination that is in two parts: the first involves a closed-book examination, three hours in duration (which, like the diagnostic examination, is concerned with mathematics as well as probability and statistics), while the second involves a computer exercise, one hour in duration, during which students can use their laptops. In this exercise, students will be given a URL, and then asked to create an object from the information contained at that URL, using the tools learned during the first semester.

The results of this qualifying examination determine whether a student will be permitted to progress to the second semester of the program; failure to progress will result in removal from the program. The results of this examination are also used to determine financial aid in the second semester, as remarked above.

Progression

The courses in the program are integrated, which means that in the first two semesters students must take all twelve credit hours of each semester, at the same time. In addition, students cannot proceed to the second semester without having successfully completed all courses in the first semester, and they cannot proceed to the Capstone project courses unless they have successfully completed all of the courses in the first two semesters.

Without having successfully completed the first Capstone project course, a student cannot enroll in the second one the following semester.

Capstone Project Requirement

In Capstone I, which is taught in the summer A semester, after two to three weeks of introductory presentations by the instructor, during which timely examples of good business analytics will be presented, students will be required to pose a relevant, important problem in business analytics, and then to give two presentations. One presentation is devoted to describing the economic model that will be used to structure the answer to the problem and the other is devoted to describing available data sources. The main assignment, however, will be to produce a written research outline that will form the basis of the research planned for completion in Capstone II; feedback during the presentations will help students to refine their written outlines that are due at the end of the course.

In Capstone II, which is taught in the summer B semester, students will be required to implement their outlines: For the first two to three weeks, the instructor will illustrate useful ways in which to gather and organize data as well as to train, validate and test empirical specifications. Students will be required to give two presentations, one devoted to describing how they gathered and organized their data and the other devoted to describing how they trained, validated, and tested their empirical specifications as well as summarizing the preliminary results and conclusions of their research. Finally, students will be required to write a report in which their research and the conclusions are presented in a convincing manner. Again, feedback during the presentations will help students to refine their research papers that are due at the end of the course.

The two-course capstone sequence is designed to prepare graduates for the initial assignment that virtually every business analyst gets during the first month on the job: take an ambiguous problem; put interpretable structure on the problem using theory; gather and organize data; train, validate and test the empirical specification; formulate the conclusions; and write up the research in a concise, effective way.

Timeline for Completion

| Fall | Spring | Summer, A and B |
|--|--|--|
| <ul style="list-style-type: none"> • ECO 5445, 3 credit hours • ECO 6118, 3 credit hours • ECO 6403, 6 credit hours | <ul style="list-style-type: none"> • ECO 6315, 3 credit hours • ECO 6424, 3 credit hours • ECO 6445, 3 credit hours • ECO 7116, 3 credit hours | <ul style="list-style-type: none"> • ECO 6935, 3 credit hours • ECO 6936, 3 credit hours |
| Semester Total: 12 credit hours | Semester Total: 12 credit hours | Semester Totals: 6 |

Total Credit Hours: 30

Financial Support

Several Graduate Teaching Assistantships are available, which are allocated competitively based on academic merit, experience as a teaching assistant, and success, as measured by teaching evaluations and feedback from faculty supervisors.

Job Search

Unless a student plans to continue on with additional education at another graduate school, during the spring semester, but definitely during the summer semesters, that student should begin actively searching for a job, for example, by combing through advertisements on a site like LinkedIn. Recent graduates of the program have been admitted to graduate school at the University of Chicago, while others have interviewed with Amazon, Applied Quantitative Research, Hotwire, Indeed, Microsoft and Thumbtack, as well the National Security Agency. In addition, several grads have taken positions at Bank of America, Barbaricon, GEICO, NBC Universal LLC, RTI International, Siemens Gamesa Renewable Energy, Sonny's BBQ, and ZS.

Eighty percent of graduates have been placed in jobs by the fourth month after graduation, while all have been placed within six months. In order to get a job, however, you must apply for one. Moreover, recent graduates have reported that of the hundreds of applications they have made individually, only perhaps one in ten or twenty or even fifty, converts to an interview; typically, just one-third of interviews convert to job offers. In short, you will have to work long and hard at getting a job, too.

Professional Conduct

Students are expected to adhere to the rules and regulations as stipulated by the University of Central Florida and the MBA Program handbook. Professionalism encompasses behaviors and qualities that are expected of graduate business students in both the academic setting and in the business world. University of Central Florida MBA degrees begin at the time of program application; therefore, professional conduct is assessed from that point forward.

Attendance, timeliness, and attire are all reflections of professionalism. In the assessment of professionalism, instructors and program administrators will consider each student's conduct; the quality of interactions; tone of oral and written communication; language; meaningful engagement in all aspects of the program; and substantive contribution to class discussions. Students who are in violation of these behaviors will be counseled and reminded of UCF/EDC expectations. In such events, the faculty or program administrators may conclude that the student is not able or willing to demonstrate an acceptable standard of professionalism. Repeated disregard or violation of these behaviors will lead to dismissal from the program. Some of the criteria by which a student's professional demeanor is measured are below.

- **Civility:** Students are expected to behave in a respectful and courteous manner to instructors, fellow students, guest speakers, college and university administrators, EDC staff, and other UCF Staff. Examples of respectful behavior include but are not limited to modulated tone of voice; professional language that avoids inappropriate, vulgar, or foul expressions; maintaining control of emotions and avoiding threatening or bullying behaviors; respect for others' personal space; respect for EDC and UCF property; refraining from distracting and disruptive behaviors while on campus (EDC or other UCF campuses), in hallways and in classrooms; and a generally civil demeanor.
- **Attendance:** It is required for students to attend each lecture and comply with the instructor's attendance policy as stated in the course syllabus.
- **Timeliness:** Students are expected to regularly arrive in class on time and to comply with each instructor's tardiness policy as stated in the course syllabus.
- **Use of Technology:** The use of computers, cell phones, or electronic devices during class that are unrelated to course activities or not permitted by instructors (i.e., web searches, IMs, etc.) is considered unprofessional.
- **Use of Electronic Media:** As per Florida Law (§ 934.03) it is illegal to audio or video record any interaction with another individual without their explicit consent. This includes lectures, meetings with instructors, meetings with fellow students, or any situation involving EDC staff or UCF personnel.
- **Professional Attire:** Refers to a minimum of business casual that may include pants, khakis, dress shirts, skirts, dresses, and jeans free of rips/tears/fraying that are neat and clean. Note that clothes that are revealing (plunging necklines, tank tops, open midriffs, short skirts/shorts, sheer fabrics); offensive T-shirts; sweatpants, leggings, workout clothes; thongs/flip-flops/Croc-like sandals; and overpowering perfumes/colognes can be distracting or annoying to others.
- **Guest Speakers / Presentations:** The MBA Program often invites guest speakers from the local business community. Students in the program must demonstrate professional conduct, respect, and appreciation for these professionals' donation of their time to enrich students' educational experiences. Students are expected to arrive to class on time and be attentive as a sign of appreciation for their time. Professional business attire is required when guest speakers are present.

Probation and Dismissal Policy and Process

Probationary Status in MBA programs means that the student is at risk (academic, professional, or ethical)

within the program. A student cannot graduate from the MBA program while on probationary status.

A student may be placed on Probation if any of the following occur:

- **Academic Probation:** Per College of Graduate Studies' policy, if the graduate status GPA falls below the required 3.00, the student will have 9 credit hours to bring the GPA above a 3.00 in order to have the Academic Probation removed. Students will receive notice in writing from the College of Graduate Studies.
- **Conduct Probation:** Any minor violation of the aforementioned professional conduct expectations. The severity of violation will be determined by the procedures outlined in the following section.

Conduct Violation Process:

1. If a violation of a conduct policy occurs, it will be reported to the Associate Dean. This will be submitted in writing and shared with the Director of the EDC.
2. Program Director will evaluate the matter and determine an appropriate course of action ranging from written warning to convening the Master's Program Review Committee (MPRC) for evaluation to immediate dismissal based on the egregiousness of the violation.
3. If the MPRC is convened, member will discuss the student's academic progress and/or professional conduct when concerns arise and recommend appropriate action based on the severity of violation up to and including program dismissal.

A student may be dismissed if any of the following occur:

The following may be grounds for dismissal from the MBA programs.

- Receiving a "D" or "F" grade in a course listed as a part of the program's curriculum. The student will be summarily dismissed from the program at that time.
- Failure to achieve ≥ 3.0 GPA after 9 credit hours of Academic Probation.
- Receiving more than 6 credit hours of "C" grades. Exceeding this limit is reason for dismissal from the program.
- Students on Restricted Admission due to earning $< 70\%$ on admission modules that do not achieve a grade of B or higher in all courses in the initial semester will be dismissed.
- Cheating: This includes plagiarizing of materials from previously published sources or previously submitted course assignments. Students will not discuss the content of written or oral examinations until cleared to do so by the course instructor. See Golden Rule, UCF's Student Handbook- Rules of Conduct.
- Unprofessional behavior: Behavior that is inconsistent with the expected professionalism or failure to correct unprofessional behavior as defined by the CBA Graduate Programs handbook is grounds for dismissal from the program. This includes failure to attend classes or excessive unexcused absences, or repeated lateness.

Forms

The following are some links to commonly-requested forms:

- [College of Graduate Studies Forms and References](#)
A complete listing of general forms and references for graduate students, with direct links, may be found here.
- [Graduate Petition Form](#)
When unusual situations arise, petitions for exceptions to policy may be requested by the student. Depending on the type of appeal, the student should contact his/her program adviser to begin the petition process.
- [Traveling Scholar Form](#)
If a student would like to take advantage of special resources available on another campus but not available on the home campus; for example, special course offerings, research opportunities, unique laboratories and library collections, this form must be completed and approved.

Useful Links

The following are some useful links:

- [MS in Economics Program](#)
- [College of Business](#)
- [College of Graduate Studies](#)
- [Academic Calendar](#)
- [Bookstore](#)
- [Campus Map](#)
- [Counseling Center](#)
- [Financial Assistance](#)
- [Golden Rule Student Handbook](#)
- [Graduate Catalog](#)
- [Graduate Student Association](#)
- [Graduate Student Center](#)
- [Housing and Residence Life](#)
- [Housing, off campus](#)
- [Knights Email](#)
- [Library](#)
- [NID Help](#)
- [Pathways to Success](#)
- [Recreation and Wellness Center](#)
- [Shuttles Parking Services](#)
- [Student Health Services](#)
- [Thesis and Dissertation \(ETD\)](#)
- [UCF Global](#)
- [University Writing Center](#)

Contact Information

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