Economics (ECON)

Faculty
Andrew P. Brownback, Assistant Professor
Andrea Civelli, Associate Professor
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Accountability
William P. Curington, Professor
Abel Embaye, Clinical Assistant Professor
Amy Lynn Farmer, University Professor, Margaret Gerig and R.S. Martin Jr. Chair in Business
Gary D. Ferrier, University Professor, Lewis E. Epley Jr. Professorship in Economics
Arya Gaduh, Assistant Professor
David E. Gay, University Professor
Difei Geng, Assistant Professor
Jingping Gu, Associate Professor
Li Hao, Assistant Professor
Andrew W. Horowitz, Professor
Raja Kali, Professor, ConocoPhillips Chair in International Education
Dongva Koh, Assistant Professor
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Degrees Conferred:
M.A., Ph.D. (ECON)

Master of Arts in Economics
Prerequisites to Degree Program: Applicants for graduate studies in economics must meet the requirements of the Graduate School of Business and be accepted by the Department of Economics. The requirements are (1) a bachelor's degree from an accredited institution with a satisfactory grade-point average, (2) a satisfactory score on the Graduate Record Examinations (GRE), and (3) satisfactory performance in the following courses: intermediate microeconomics, intermediate macroeconomics, statistics, two semesters of calculus, and linear algebra. Students from all academic backgrounds are encouraged to apply.

Degree Options: Students must select the Non-Thesis or Thesis option. Both options combine a study of economic theory, applied econometrics, and an applied field that will prepare students for careers in the private or public sector, or for doctoral programs. The Non-Thesis option can be completed in one year. The Thesis option is for students who seek more advanced skills. It requires additional coursework and a thesis, and will take three or four semesters to complete.

Common Requirements for the Master of Arts Degree, Non-Thesis and Thesis Options: All master's students must satisfactorily complete the 30 hours of course work listed below. Students must have a 3.00 cumulative grade point average in order to graduate. If at any point, a student's cumulative GPA falls below a 3.00, the student will be placed on academic probation. A student with a cumulative GPA below 3.00 for two consecutive semesters will be dismissed from the program.

Core Requirements

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ECON 6133</td>
<td>Mathematics for Economic Analysis (Su)</td>
<td>3</td>
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<tr>
<td>ECON 6213</td>
<td>Microeconomic Theory I (Fa)</td>
<td>3</td>
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<tr>
<td>ECON 6223</td>
<td>Microeconomic Theory II (Sp)</td>
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<tr>
<td>ECON 6313</td>
<td>Macroeconomic Theory I (Fa)</td>
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<td>ECON 6323</td>
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<td>ECON 6613</td>
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<td>ECON 6623</td>
<td>Econometrics II (Sp)</td>
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<tr>
<td>or ECON 6633</td>
<td>Econometrics III (Sp)</td>
<td>3</td>
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<tr>
<td>ECON 643V</td>
<td>Seminar in Economic Theory and Research I (Fa)</td>
<td>1-3</td>
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<tr>
<td>ECON 644V</td>
<td>Seminar in Economic Theory and Research II (Sp)</td>
<td>1-3</td>
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Total Hours: 23-27

Applied Field Concentration (6 hours): Each student shall complete at least six hours of coursework in one applied field. Students who seek advanced training in applied economics and business in preparation for entering business or government employment should select one of the following fields: finance, accounting, marketing, transportation, information systems, or quantitative methods. Students who plan to enter a doctoral program should choose mathematics or statistics as their field. Other concentrations are possible with the approval of the Program Coordinator.

Graduate Seminar (3 hours): Students must register for at least one hour of graduate seminar each semester they are in residence.

Additional Degree Requirements, Non-Thesis Option (30 hours): In addition to 30 hours of required coursework, students who select the non-thesis option must take a comprehensive exam. Students must pass written exams in microeconomics and macroeconomics. The final exams at the end of ECON 6223 Microeconomic Theory II (Sp) and ECON 6323 Macroeconomic Theory II (Sp) will be comprehensive over both Micro I & II and Macro I & II. These two exams will be taken by all students in the course and will serve as the comprehensive exam for master's students. Each exam has three possible grades: Pass, Marginal Pass, and Fail. Students must earn at least a Marginal Pass on both exams.

Should a Ph.D. student later decide to receive the master's degree, the master's comprehensive examination requirement will have been satisfied if the student received at least a Marginal Pass on both exams. These exams will be developed and graded by the instructor of record for the courses. In cases where a student's performance might produce a “Fail,” the instructor will consult with the faculty who normally develop the Ph.D. preliminary examination in that area.

Additional Degree Requirements, Thesis Option (Minimum of 42 hours): This option is intended for students who seek the acquisition of advanced analytical and research skills. Students who select the Thesis option must pass 30 hours of required coursework specified above, 12 additional hours of coursework – 6 hours approved by the Program Director and 6 hours of thesis credit, and pass a comprehensive exam. The comprehensive exam will take the form of a formal thesis defense.

Ph.D. in Economics
Prerequisites to Degree Program: Students may enter the program directly from a bachelor's degree or a master's degree program. Applicants for graduate studies in economics must meet the requirements...
of the Graduate School of Business and be accepted by the Department of Economics. The requirements are (1) a bachelor’s degree from an accredited institution with a satisfactory grade-point average, (2) a satisfactory score on the Graduate Record Examinations (GRE), and (3) satisfactory performance in the following courses: intermediate microeconomics, intermediate macroeconomics, statistics, two semesters of calculus, and linear algebra. Students from all academic backgrounds are encouraged to apply.

**Requirements for the Doctor of Philosophy Degree:** The doctoral program consists of

1. **Core requirements**
2. **Candidacy**
3. **Field Examination**
4. **Dissertation**
5. **Final Examination**

**Core Requirements:** All doctoral candidates must satisfactorily complete the 39 hours of course work listed below. Students must also register for graduate seminar each semester they are in residence. Students must have a 3.00 cumulative grade point average in order to graduate. If at any point, a student’s cumulative GPA falls below a 3.00 the student will be placed on academic probation. A student with a cumulative GPA below 3.00 for two consecutive semesters will be dismissed from the program.

- **ECON 6133** Mathematics for Economic Analysis (Su) 3
- **ECON 6213** Microeconomic Theory I (Fa) 3
- **ECON 6223** Microeconomic Theory II (Sp) 3
- **ECON 6313** Macroeconomic Theory I (Fa) 3
- **ECON 6323** Macroeconomic Theory II (Sp) 3
- **ECON 6613** Econometrics I (Fa) 3
- **ECON 6623** Econometrics II (Sp) 3
- **ECON 6633** Econometrics III (Sp) 3
- **ECON 6713** Industrial Organization I (Fa) 3
- **ECON 6723** Industrial Organization II (Sp) 3
- **ECON 6833** International Development I (Fa) 3
- **ECON 6843** International Development II (Sp) 3
- **ECON 6913** Experimental Economics (Fa) 3

Note: The foregoing requirements are for students who enter the doctoral program directly from undergraduate school. Students whose qualifications exceed the baccalaureate will be evaluated individually in accordance with standards established by the Graduate School and the Walton College of Business. Students who have earned a master’s degree in economics at the University of Arkansas or elsewhere may have substantially shorter programs.

**Candidacy Examinations:** Students must pass written examinations in microeconomics and macroeconomics. These exams will normally be given in the summer after a student’s first year in the program. Each exam has three possible grades: Pass, Marginal Pass, and Fail. Students must earn at least a Marginal Pass on both exams and a Pass in at least one of the exams. A student will normally have two opportunities to pass each exam with the second opportunity typically occurring in January. If a student’s exam scores are not satisfactory, all exams for which a grade of Pass was not earned must be retaken. Only the most recent grade will be used in determining if this requirement has been met. Students will normally have only two attempts to pass the candidacy exams. Failure to successfully complete this requirement will result in a student being dismissed from the program.

**Field Examination:** Ph.D. students will have two fields of study, which will normally be a) Industrial Organization and b) International Macroeconomics and Development. Other fields are possible with the approval of the Director of Doctoral Studies. A field will consist of 6 hours of specialized courses (numbered 6000 or above). Students will select one of their two fields as a major field and must pass a Field Examination in that area. The Field Examination requirement is satisfied by a research paper on a topic in the student’s field of specialization that is approved by the student’s adviser. The paper will typically be completed after the student completes the required field courses (typically in the summer after the student’s second year). The paper topic must be approved by the student’s advisor and registered with the Director of Graduate Studies. This requirement is completed when the student’s adviser approves the completed paper. When feasible, the paper will be presented at a departmental seminar before it is approved by the student’s adviser.

**Dissertation:** The dissertation represents a demonstration of a candidate’s ability to select, define, organize, and complete a major research project. It should demonstrate that the student has technical mastery of the field, is capable of doing independent scholarly research, and is able to formulate conclusions that enlarge the body of economic knowledge. Dissertation requirements include (1) a defense of proposal and (2) completion of an acceptable doctoral dissertation. Students must enroll in a total of 18 hours of dissertation credit.

**Final Examination:** The final examination is normally an oral defense of the student’s dissertation.

**Courses**

- **ECON 4423. Behavioral Economics (Sp). 3 Hours.**
  Both economics and psychology systematically study human judgment, behavior, and well-being. This course surveys attempts to incorporate psychology into economics to better understand how people make decisions in economic situations. The course will cover models of choice under uncertainty, choice over time, as well as procedural theories of decision making. Prerequisite: ECON 2023 or ECON 2143.

- **ECON 4433. Experimental Economics (Fa). 3 Hours.**
  The course offers an introduction to the field of experimental economics. Included are the methodological issues associated with developing, conducting, and analyzing controlled laboratory experiments. Standard behavioral results are examined and the implications of such behavior for business and economic theory are explored. Prerequisite: ECON 2023 or ECON 2143.

- **ECON 4743. Introduction to Econometrics (Sp). 3 Hours.**
  Introduction to the application of statistical methods to problems in economics. Prerequisites: (ECON 2013 and ECON 2023) or ECON 2143 and (MATH 2043 or MATH 2554 or higher) and (WCOB 1033 or STAT 2303).

- **ECON 4753. Forecasting (Fa). 3 Hours.**
  The application of forecasting methods to economics, management, engineering, and other natural and social sciences. The student will learn how to recognize important features of time series and will be able to estimate and evaluate econometric models that fit the data reasonably well and allow the construction of forecasts. Prerequisites: (ECON 2013 and ECON 2023) or (ECON 2143) and (MATH 2043 or MATH 2554) and (WCOB 1033 or STAT 2303).

- **ECON 5243. Economics of Supply Chain & Retail (Sp). 3 Hours.**
  This course will provide students with a strong foundation in core economics principles, with emphasis on industrial organization issues and applications geared toward the supply-chain and retail focus of the redesigned MBA program.
ECON 5253. Economics of Management and Strategy (Irregular). 3 Hours. Information economics and applied game theory.

ECON 5373. Global Business (Su). 3 Hours. Integrated overview of the global business environment and the organizational challenges of a multinational firm. To enhance understanding of the business and cultural environment of prominent emerging markets, the course includes a 2-3 week overseas immersion project to fulfill a predefined goal. Project is integrated with global content upon return. This course is cross-listed with MGMT 5373.

ECON 5853. International Economics Policy (Irregular). 3 Hours. An intensive analysis of the operation of the international economy with emphasis on issues of current policy interest.

ECON 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour. Master's Thesis. May be repeated for degree credit.

ECON 6133. Mathematics for Economic Analysis (Su). 3 Hours. This course will develop mathematical and statistical skills for learning economics and related fields. Topics include calculus, static optimization, real analysis, linear algebra, convex analysis, and dynamic optimization. Prerequisite: Graduate standing and MATH 2554 or equivalent.

ECON 6213. Microeconomic Theory I (Fa). 3 Hours. Introductory microeconomic theory at the graduate level. Mathematical formulation of the consumer choice, producer behavior, and market equilibrium problems at the level of introductory calculus. Discussion of monopoly, oligopoly, public goods, and externalities.

ECON 6223. Microeconomic Theory II (Sp). 3 Hours. Advanced treatment of the central microeconomic issues using basic real analysis. Formal discussion of duality, general equilibrium, welfare economics, choice under uncertainty, and game theory.

ECON 6313. Macroeconomic Theory I (Fa). 3 Hours. Theoretical development of macroeconomic models that include and explain the natural rate of unemployment hypothesis and rational expectations, consumer behavior, demand for money, market clearing models, investment, and fiscal policy.

ECON 6323. Macroeconomic Theory II (Sp). 3 Hours. Further development of macroeconomic models to include uncertainty and asset pricing theory. Application of macroeconomic models to explain real world situations.

ECON 636V. Special Problems in Economics (Sp, Su, Fa). 1-6 Hour. Independent reading and investigation in economics. May be repeated for up to 9 hours of degree credit.

ECON 643V. Seminar in Economic Theory and Research I (Fa). 1-3 Hour. May be repeated for up to 6 hours of degree credit.

ECON 644V. Seminar in Economic Theory and Research II (Sp). 1-3 Hour. Independent research and group discussion.

ECON 6533. Seminar in Advanced Economics I (Irregular). 3 Hours. This seminar will cover advanced fields of current research importance in economics. This will facilitate the development of research directions for doctoral study and research. Prerequisite: Graduate standing.

ECON 6543. Seminar in Advanced Economics II (Irregular). 3 Hours. This seminar will cover advanced fields of current research importance in economics. This will facilitate the development of research directions for doctoral study and research. Prerequisite: Graduate standing.

ECON 6613. Econometrics I (Fa). 3 Hours. Use of economic theory and statistical methods to estimate economic models. The single equation model is examined emphasizing multicollinearity, autocorrelation, heteroskedasticity, binary variables and distributed lags. Prerequisite: MATH 2043 and knowledge of matrix methods, which may be acquired as a corequisite, and ECON 2023, and an introductory statistics course or equivalent.

ECON 6623. Econometrics II (Sp). 3 Hours. Use of economic theory and statistical methods to estimate economic models. The treatment of measurement error and limited dependent variables and the estimation of multiple equation models and basic panel data models will be covered. Additional frontier techniques may be introduced. Prerequisite: ECON 6613.

ECON 6633. Econometrics III (Sp). 3 Hours. Use of economic theory and statistical methods to estimate economic models. Nonlinear and semiparametric/nonparametric methods, dynamic panel data methods, and time series analysis (both stationary and nonstationary processes) will be covered. Additional frontier techniques may be covered. Prerequisite: ECON 6613.

ECON 6713. Industrial Organization I (Fa). 3 Hours. This course will develop the theory of modern industrial organization. The latest advances in microeconomic theory, including game theory, information economics and auction theory will be applied to understand the behavior and organization of firms and industries. Theory will be combined with empirical evidence on firms, industries and markets. Prerequisite: ECON 6213 and ECON 6223.

ECON 6723. Industrial Organization II (Sp). 3 Hours. This course surveys firm decisions, including setting prices, choosing product lines and product quality, employing price discrimination, and taking advantage of market structure. It will also cover behavioral IO, which reconsider the assumption that firms and consumers are perfectly rational and examines the role of regulation. Prerequisite: ECON 5233.

ECON 6833. International Development I (Fa). 3 Hours. A first graduate level course in development economics with a focus on foundational theoretical issues. We explore the causation, implications, and remedies for pervasive and persistent poverty in low-income countries. Emphasis will be primarily on microeconomics topics. May be taken either as a precursor to International Development Economics II or stand-alone. Prerequisite: ECON 6213, (ECON 6613 or AGEC 5613) or by instructor's permission.

ECON 6843. International Development II (Sp). 3 Hours. A second graduate level course in development economics that focuses on the empirical aspect of development in low-income countries. The course explores various microeconomics topics related to poverty, human capital accumulation, and their interactions with role of public policy. Prerequisite: ECON 5533, (ECON 5613 or AGEC 5613) or by instructor's permission.

ECON 6913. Experimental Economics (Fa). 3 Hours. The course develops advanced concepts in the use of controlled experiments to test economic theory and explore behavioral regularities relating to economics. The class focuses on the methodology of experimental economics while reviewing a variety of established results. Prerequisite: ECON 5533.

ECON 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour. Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.